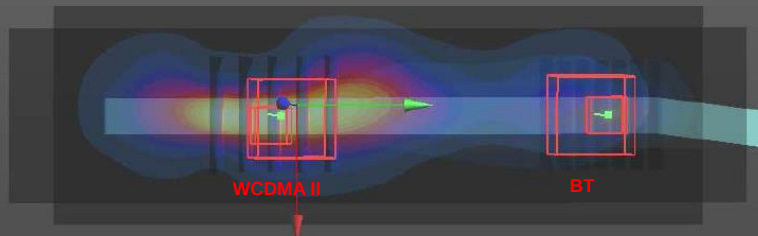
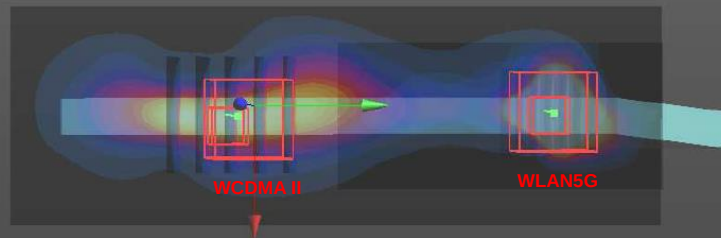


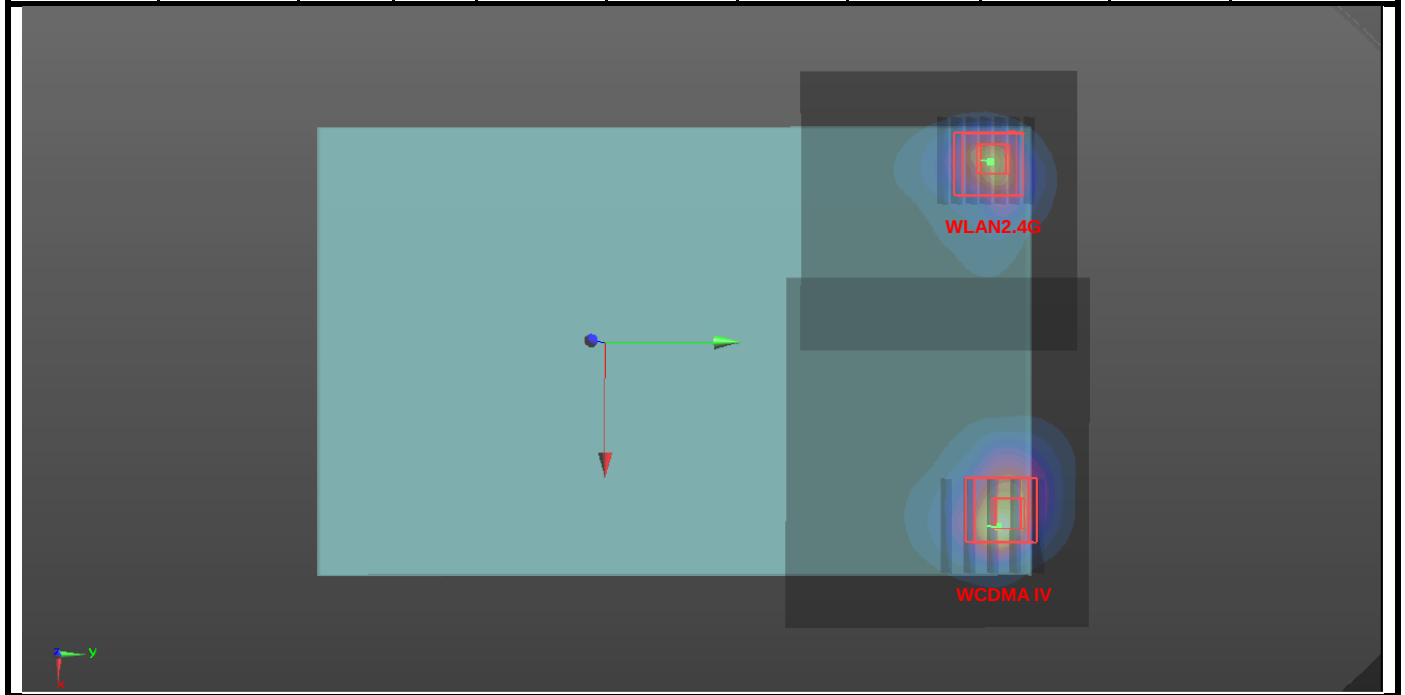
# FCC SAR Test Report

| Band     | Position | SAR<br>(W/kg) | Gap<br>(mm) | SAR peak location (m) |        |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|----------|---------------|-------------|-----------------------|--------|--------|------------------------|-------------------------|------------------|---------------------|
|          |          |               |             | X                     | Y      | Z      |                        |                         |                  |                     |
| WCDMA II | Top Side | 0.40          | 0           | 1.75E-10              | -0.027 | -0.18  | 87.1                   | 1.50                    | 0.02             | Not required        |
| WLAN5G   |          | 1.10          | 0           | -0.001                | 0.06   | -0.183 |                        |                         |                  |                     |
| WCDMA II | Top Side | 0.40          | 0           | 1.75E-10              | -0.027 | -0.18  | 90.6                   | 0.59                    | 0.00             | Not required        |
| BT       |          | 0.19          | 0           | 1.75E-10              | 0.0636 | -0.18  |                        |                         |                  |                     |



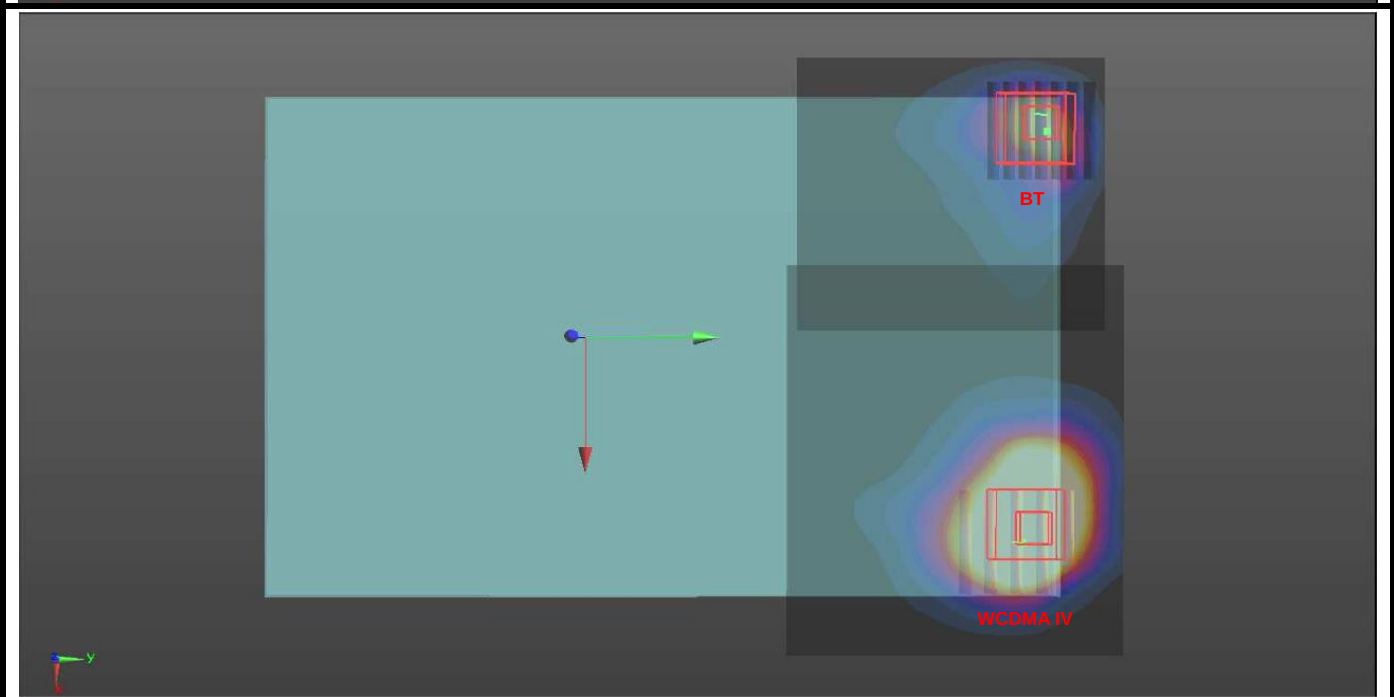
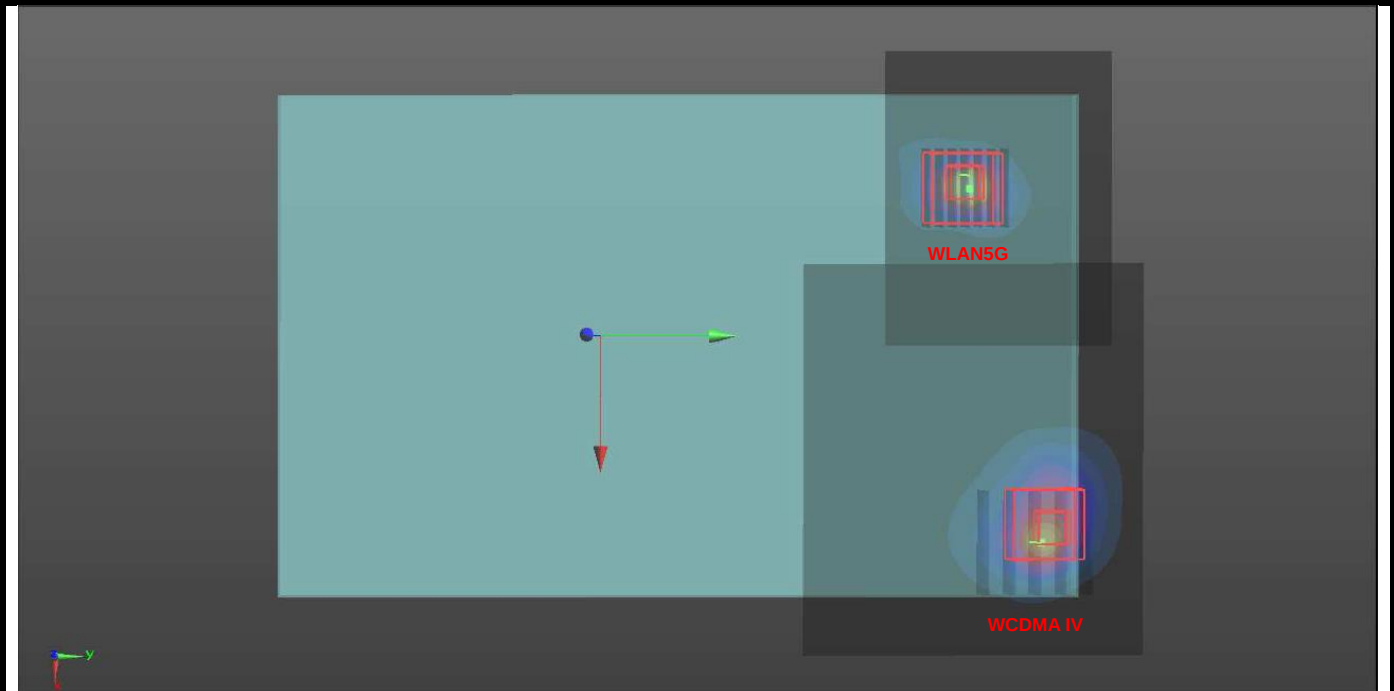
# FCC SAR Test Report

| Band     | Position  | SAR (W/kg) | Gap  | SAR peak location (m) |       |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|----------|-----------|------------|------|-----------------------|-------|--------|------------------|-------------------|---------------|------------------|
|          |           |            | (mm) | X                     | Y     | Z      |                  |                   |               |                  |
| WCDMA IV | Rear Face | 1.05       | 0    | 0.0605                | 0.114 | -0.179 | 125.3            | 1.86              | 0.02          | Not required     |
| WLAN2.4G |           | 0.81       | 0    | -0.0648               | 0.111 | -0.179 |                  |                   |               |                  |



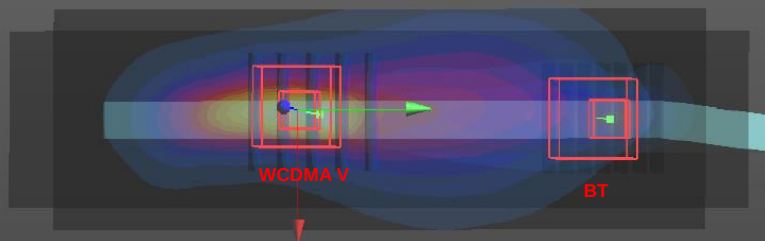
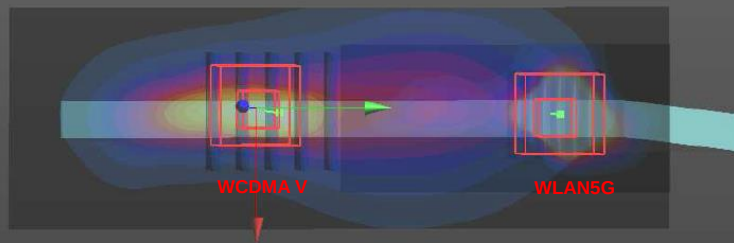
# FCC SAR Test Report

| Band     | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|          |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| WCDMA IV | Rear Face | 1.05          | 0    | 0.0605                | 0.114 | -0.179 | 114.9                  | 1.59                    | 0.02             | Not required        |
| WLAN5G   |           | 0.55          | 0    | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| WCDMA IV | Rear Face | 1.05          | 0    | 0.0605                | 0.114 | -0.179 | 131.9                  | 1.30                    | 0.01             | Not required        |
| BT       |           | 0.25          | 0    | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



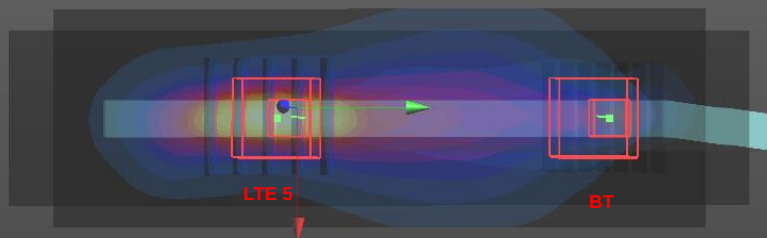
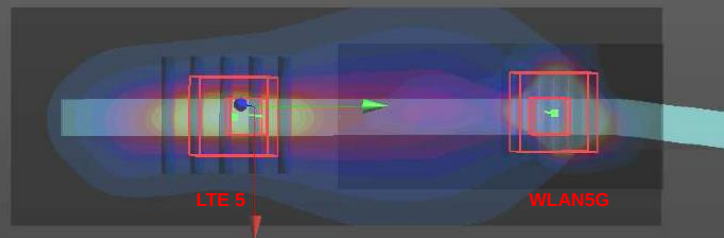
# FCC SAR Test Report

| Band    | Position | SAR<br>(W/kg) | Gap  | SAR peak location (m) |         |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|---------|----------|---------------|------|-----------------------|---------|--------|------------------------|-------------------------|------------------|---------------------|
|         |          |               | (mm) | X                     | Y       | Z      |                        |                         |                  |                     |
| WCDMA V | Top Side | 0.42          | 0    | -0.0015               | -0.0165 | -0.18  | 76.6                   | 1.52                    | 0.02             | Not required        |
| WLAN5G  |          | 1.10          | 0    | -0.001                | 0.06    | -0.183 |                        |                         |                  |                     |
| WCDMA V | Top Side | 0.42          | 0    | -0.0015               | -0.0165 | -0.18  | 80.1                   | 0.61                    | 0.01             | Not required        |
| BT      |          | 0.19          | 0    | 1.75E-10              | 0.0636  | -0.18  |                        |                         |                  |                     |



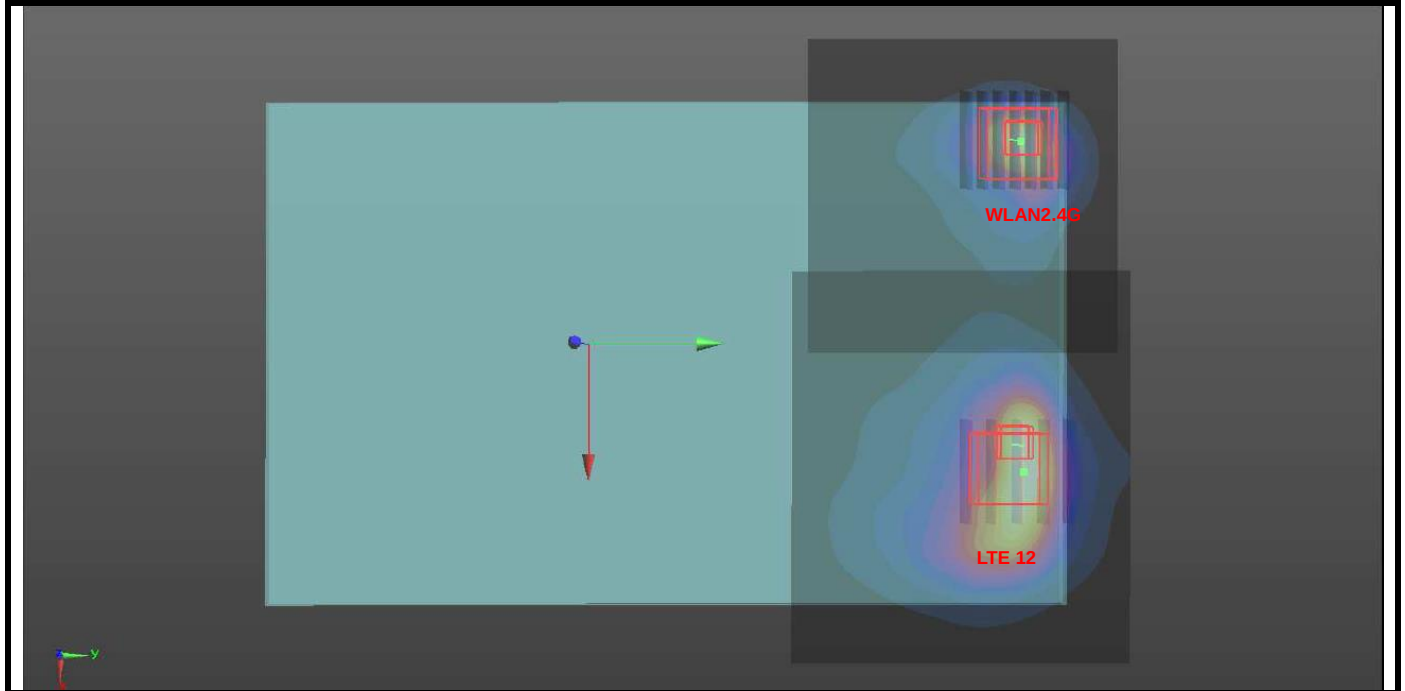
# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap  | SAR peak location (m) |         |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------|-----------------------|---------|--------|------------------|-------------------|---------------|------------------|
|        |          |            | (mm) | X                     | Y       | Z      |                  |                   |               |                  |
| LTE 5  | Top Side | 0.45       | 0    | 1.75E-10              | -0.0205 | -0.18  | 80.6             | 1.55              | 0.02          | Not required     |
| WLAN5G |          | 1.10       | 0    | -0.001                | 0.06    | -0.183 |                  |                   |               |                  |
| LTE 5  | Top Side | 0.45       | 0    | 1.75E-10              | -0.0205 | -0.18  | 84.1             | 0.64              | 0.01          | Not required     |
| BT     |          | 0.19       | 0    | 1.75E-10              | 0.0636  | -0.18  |                  |                   |               |                  |



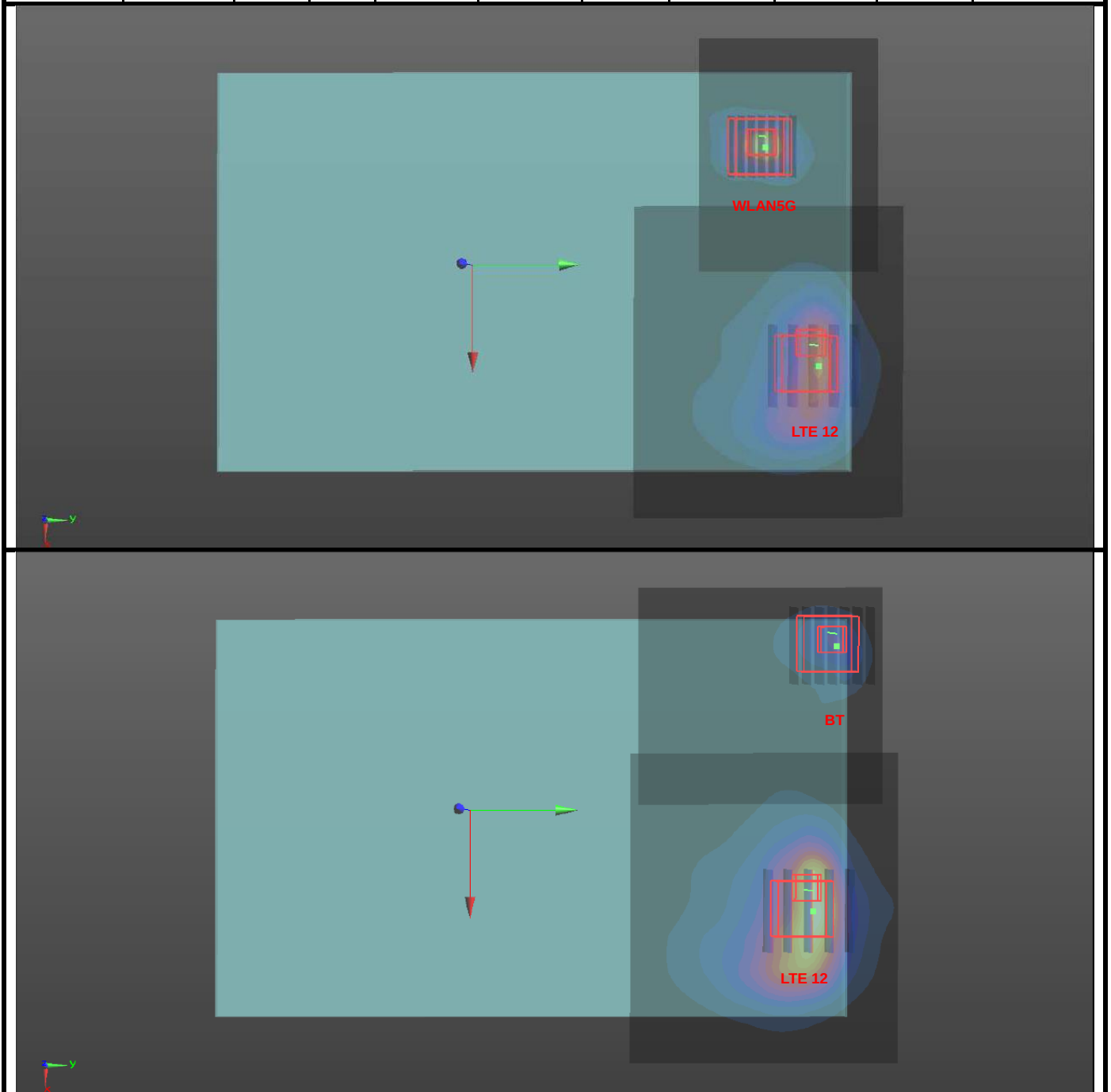
# FCC SAR Test Report

| Band     | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|          |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 12   | Rear Face | 1.01          | 0    | 0.0285                | 0.112 | -0.179 | 93.3                   | 1.82                    | 0.03             | Not required        |
| WLAN2.4G |           | 0.81          | 0    | -0.0648               | 0.111 | -0.179 |                        |                         |                  |                     |



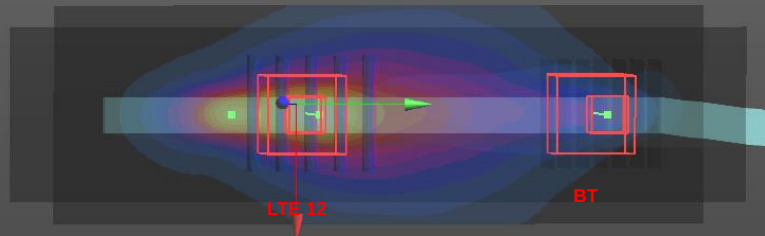
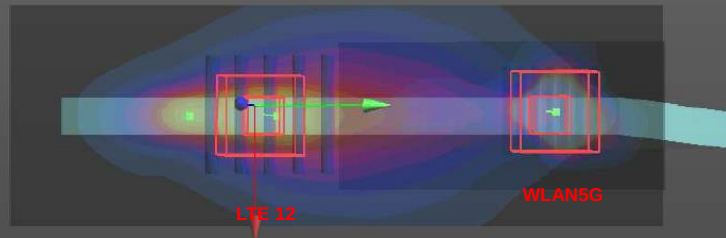
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 12 | Rear Face | 1.01          | 0    | 0.0285                | 0.112 | -0.179 | 83.2                   | 1.55                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0    | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 12 | Rear Face | 1.01          | 0    | 0.0285                | 0.112 | -0.179 | 100.1                  | 1.26                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0    | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



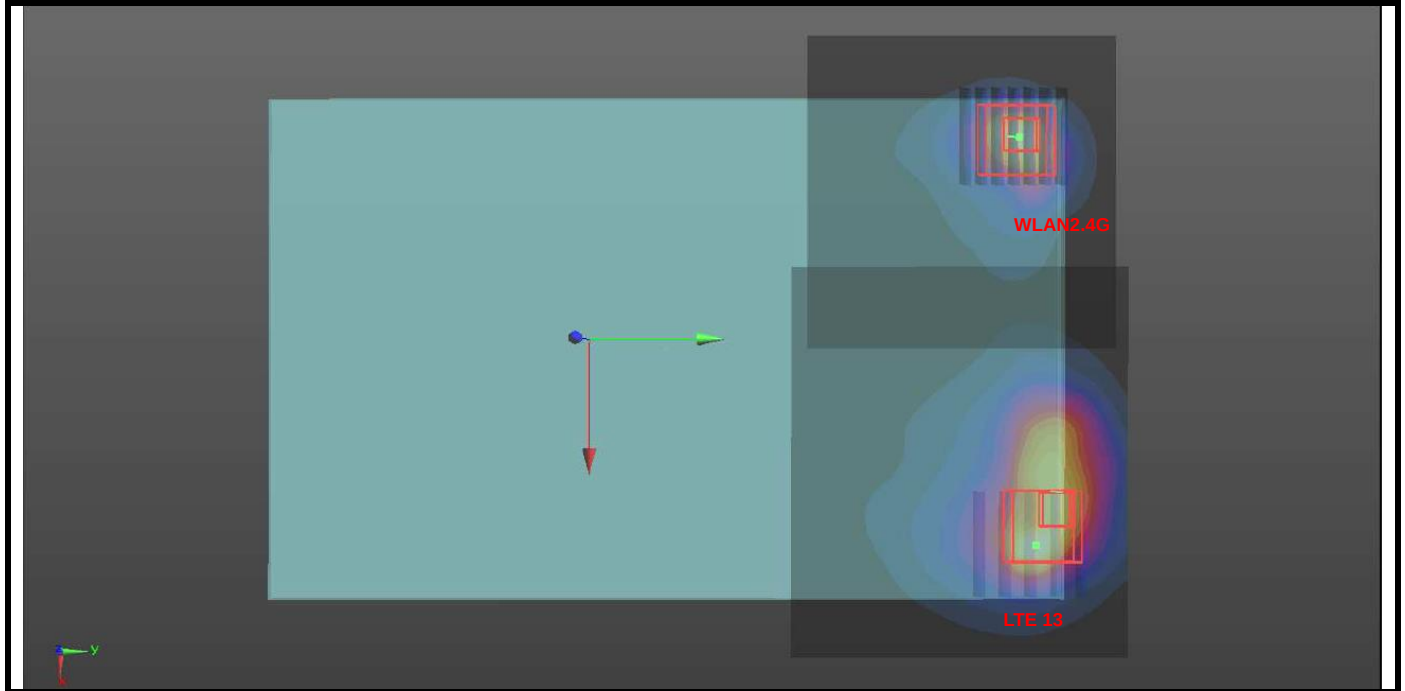
# FCC SAR Test Report

| Band   | Position | SAR<br>(W/kg) | Gap  | SAR peak location (m) |         |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|----------|---------------|------|-----------------------|---------|--------|------------------------|-------------------------|------------------|---------------------|
|        |          |               | (mm) | X                     | Y       | Z      |                        |                         |                  |                     |
| LTE 12 | Top Side | 0.55          | 0    | 1.75E-10              | -0.0165 | -0.18  | 76.6                   | 1.65                    | 0.03             | Not required        |
| WLAN5G |          | 1.10          | 0    | -0.001                | 0.06    | -0.183 |                        |                         |                  |                     |
| LTE 12 | Top Side | 0.55          | 0    | 1.75E-10              | -0.0165 | -0.18  | 80.1                   | 0.74                    | 0.01             | Not required        |
| BT     |          | 0.19          | 0    | 1.75E-10              | 0.0636  | -0.18  |                        |                         |                  |                     |



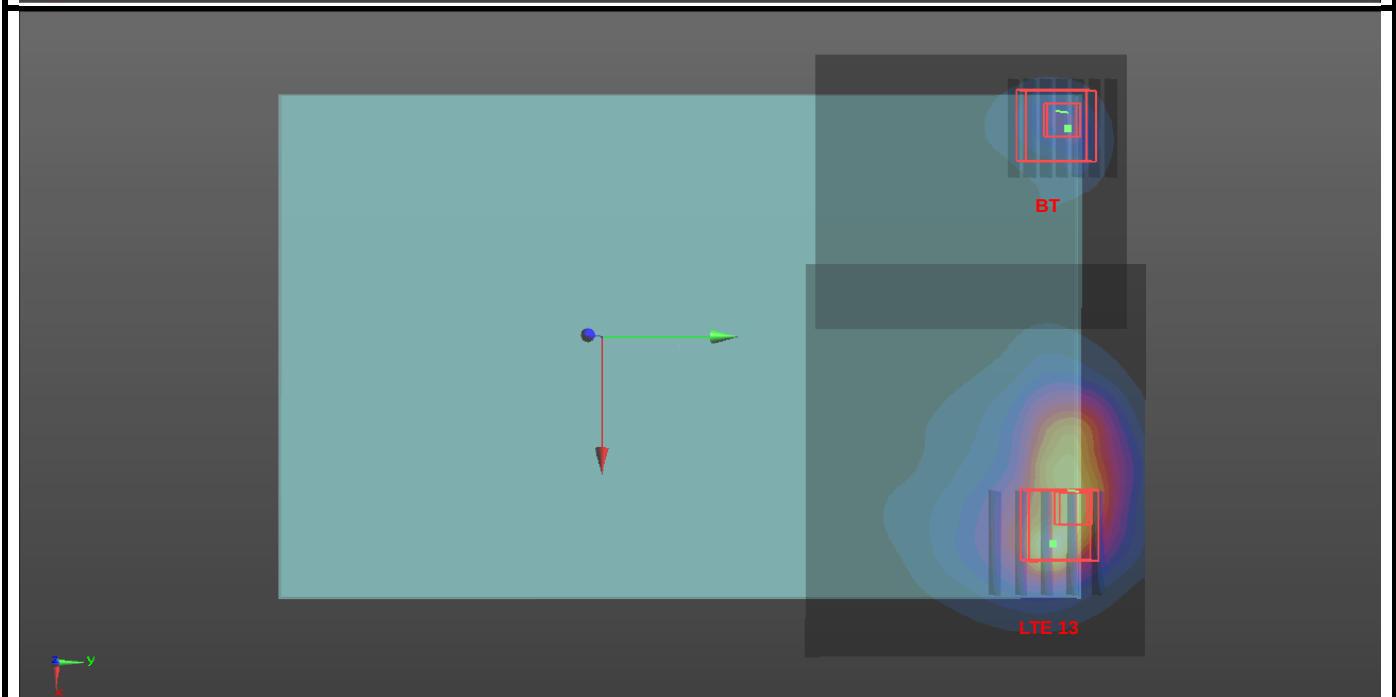
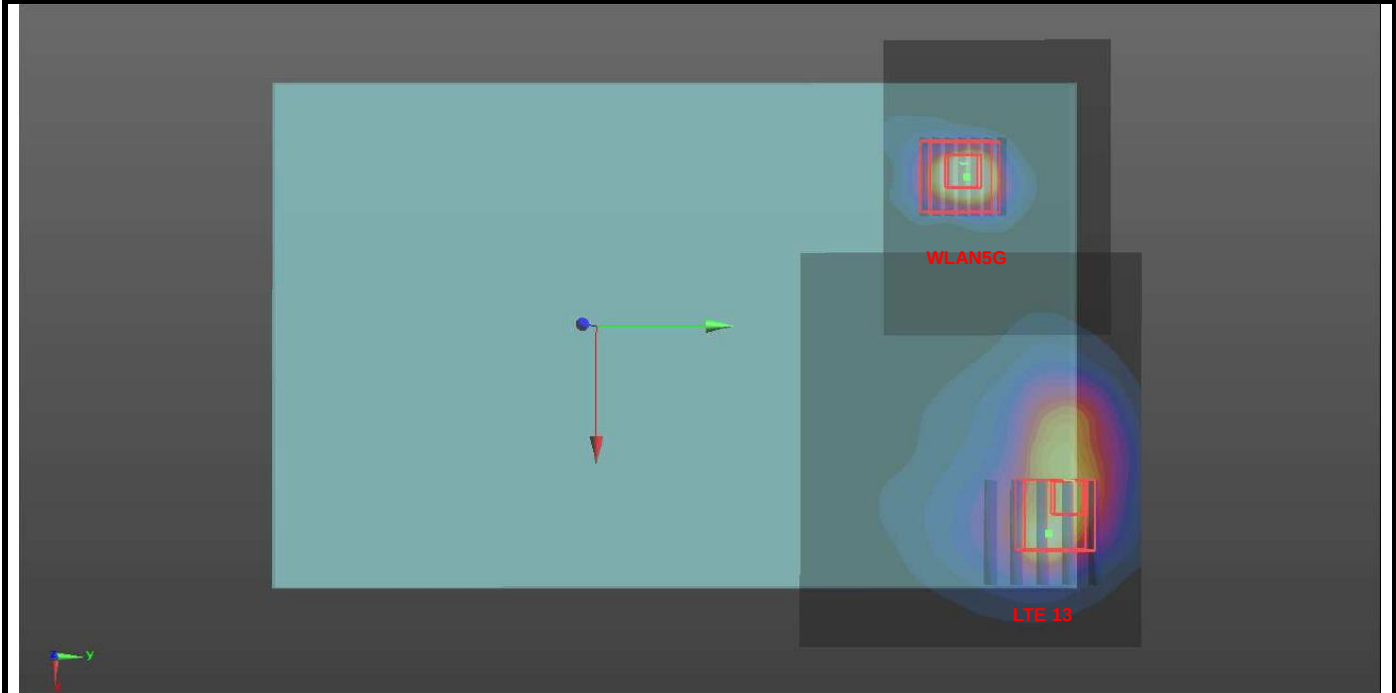
# FCC SAR Test Report

| Band     | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|          |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 13   | Rear Face | 0.93          | 0    | 0.0445                | 0.125 | -0.179 | 110.2                  | 1.74                    | 0.02             | Not required        |
| WLAN2.4G |           | 0.81          | 0    | -0.0648               | 0.111 | -0.179 |                        |                         |                  |                     |



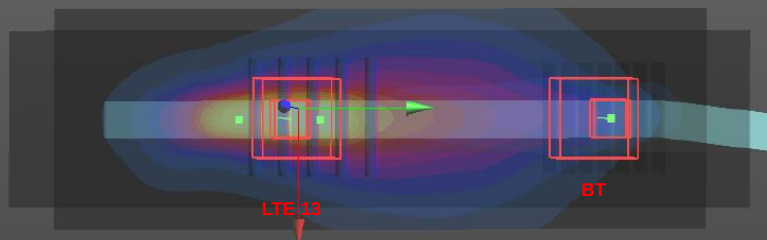
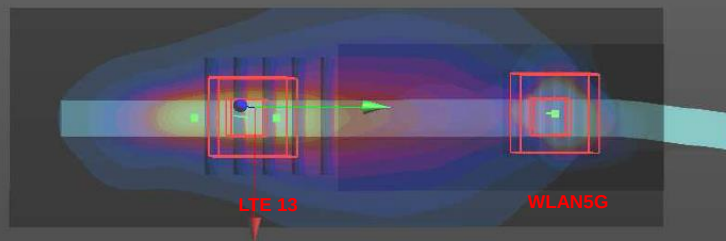
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap<br>(mm) | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|-------------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               |             | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 13 | Rear Face | 0.93          | 0           | 0.0445                | 0.125 | -0.179 | 102.4                  | 1.47                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0           | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 13 | Rear Face | 0.93          | 0           | 0.0445                | 0.125 | -0.179 | 115.8                  | 1.18                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0           | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



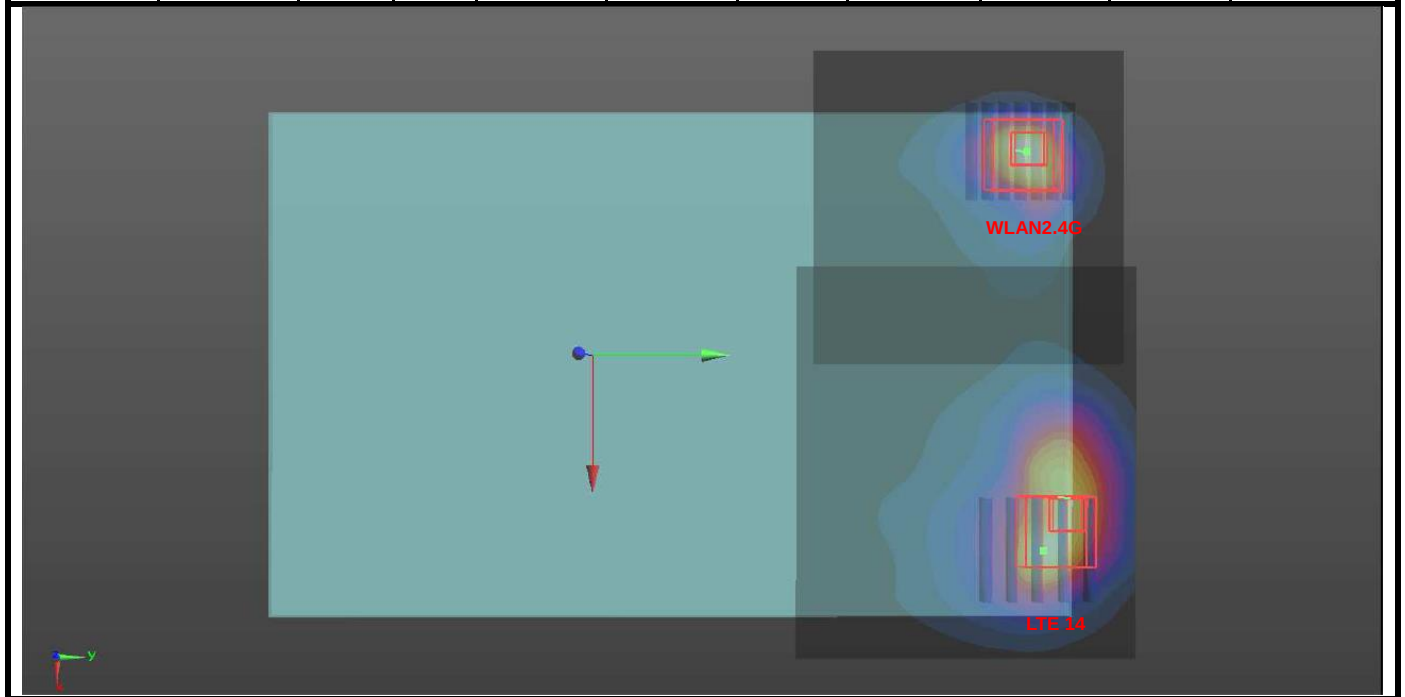
# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap  | SAR peak location (m) |         |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------|-----------------------|---------|--------|------------------|-------------------|---------------|------------------|
|        |          |            | (mm) | X                     | Y       | Z      |                  |                   |               |                  |
| LTE 13 | Top Side | 0.73       | 0    | 1.75E-10              | -0.0245 | -0.18  | 84.6             | 1.83              | 0.03          | Not required     |
| WLAN5G |          | 1.10       | 0    | -0.001                | 0.06    | -0.183 |                  |                   |               |                  |
| LTE 13 | Top Side | 0.73       | 0    | 1.75E-10              | -0.0245 | -0.18  | 88.1             | 0.92              | 0.01          | Not required     |
| BT     |          | 0.19       | 0    | 1.75E-10              | 0.0636  | -0.18  |                  |                   |               |                  |



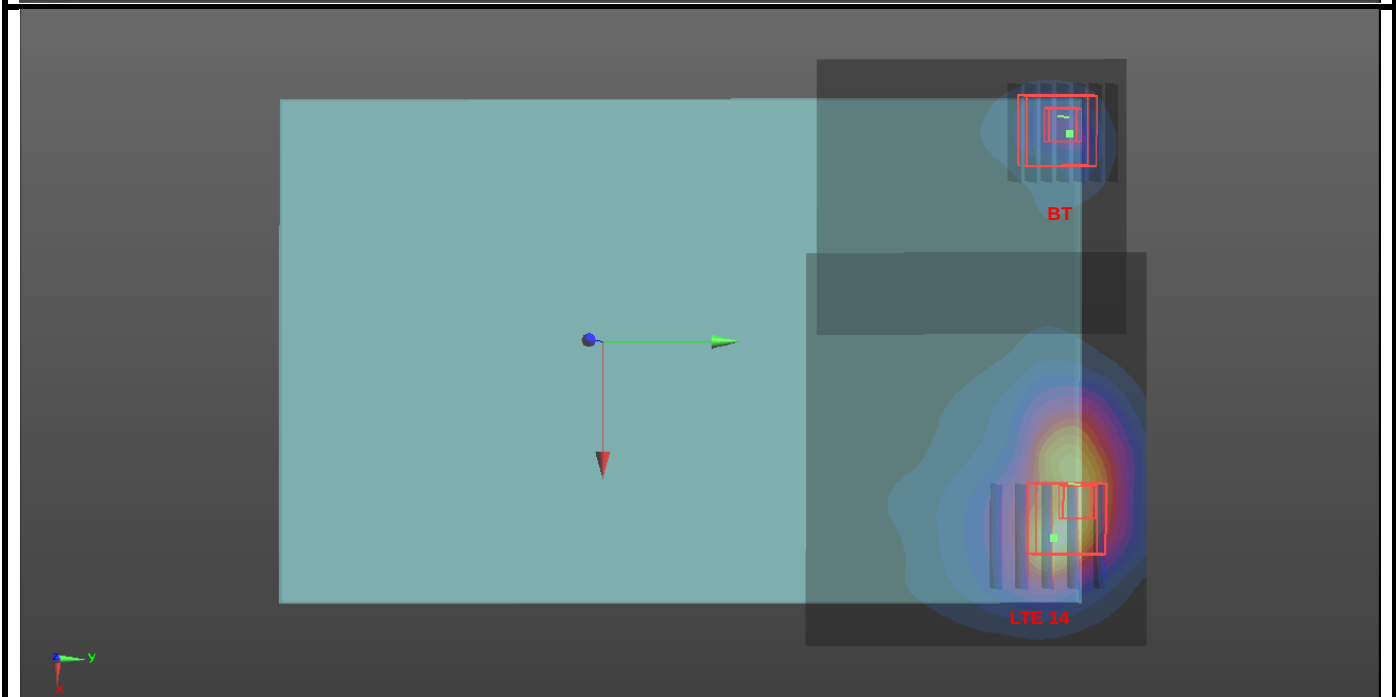
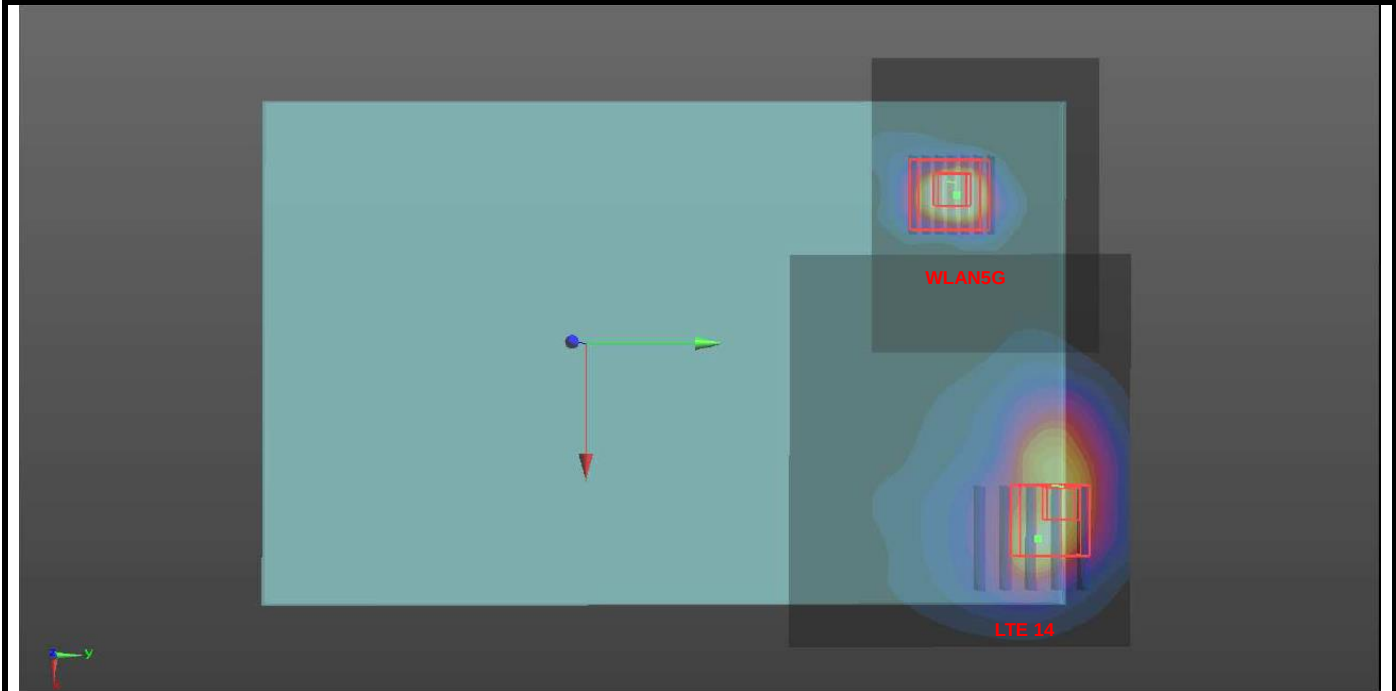
# FCC SAR Test Report

| Band     | Position  | SAR (W/kg) | Gap  | SAR peak location (m) |       |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|----------|-----------|------------|------|-----------------------|-------|--------|------------------|-------------------|---------------|------------------|
|          |           |            | (mm) | X                     | Y     | Z      |                  |                   |               |                  |
| LTE 14   | Rear Face | 0.97       | 0    | 0.041                 | 0.125 | -0.179 | 106.7            | 1.78              | 0.02          | Not required     |
| WLAN2.4G |           | 0.81       | 0    | -0.0648               | 0.111 | -0.179 |                  |                   |               |                  |



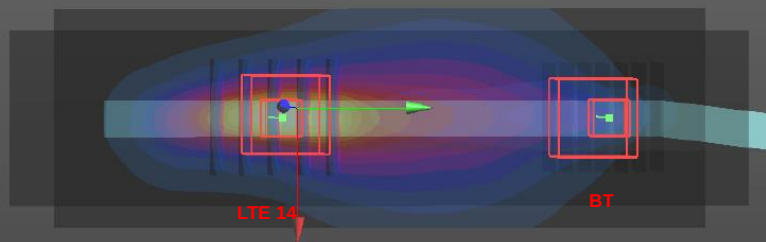
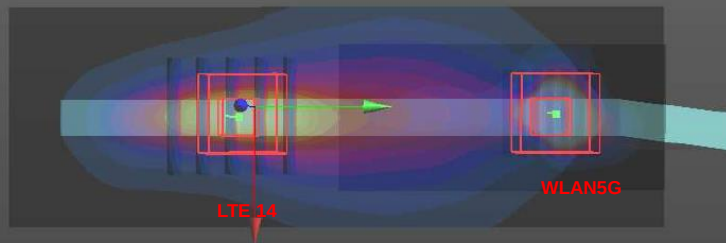
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap<br>(mm) | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|-------------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               |             | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 14 | Rear Face | 0.97          | 0           | 0.041                 | 0.125 | -0.179 | 99.1                   | 1.51                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0           | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 14 | Rear Face | 0.97          | 0           | 0.041                 | 0.125 | -0.179 | 112.3                  | 1.22                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0           | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



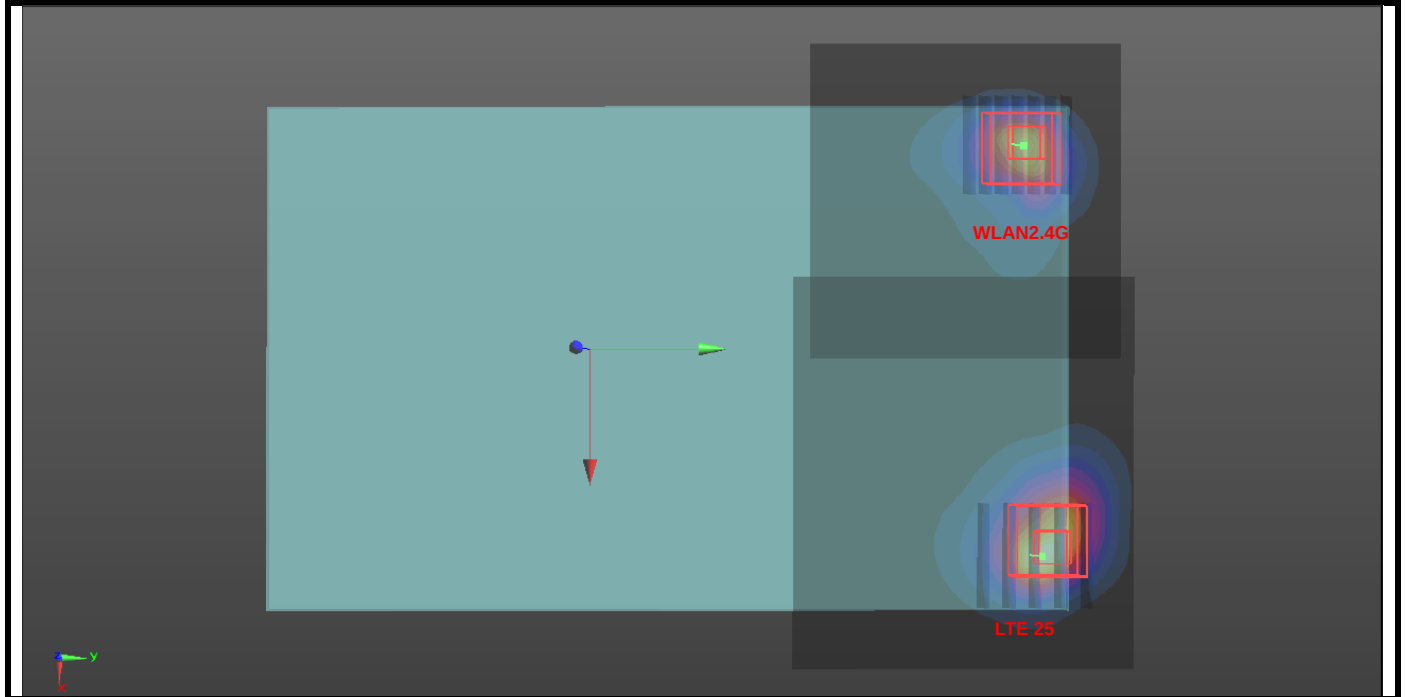
# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap (mm) | SAR peak location (m) |        |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|----------|-----------------------|--------|--------|------------------|-------------------|---------------|------------------|
|        |          |            |          | X                     | Y      | Z      |                  |                   |               |                  |
| LTE 14 | Top Side | 0.80       | 0        | 1.75E-10              | -0.027 | -0.18  | 87.1             | 1.90              | 0.03          | Not required     |
| WLAN5G |          | 1.10       | 0        | -0.001                | 0.06   | -0.183 |                  |                   |               |                  |
| LTE 14 | Top Side | 0.80       | 0        | 1.75E-10              | -0.027 | -0.18  | 90.6             | 0.99              | 0.01          | Not required     |
| BT     |          | 0.19       | 0        | 1.75E-10              | 0.0636 | -0.18  |                  |                   |               |                  |



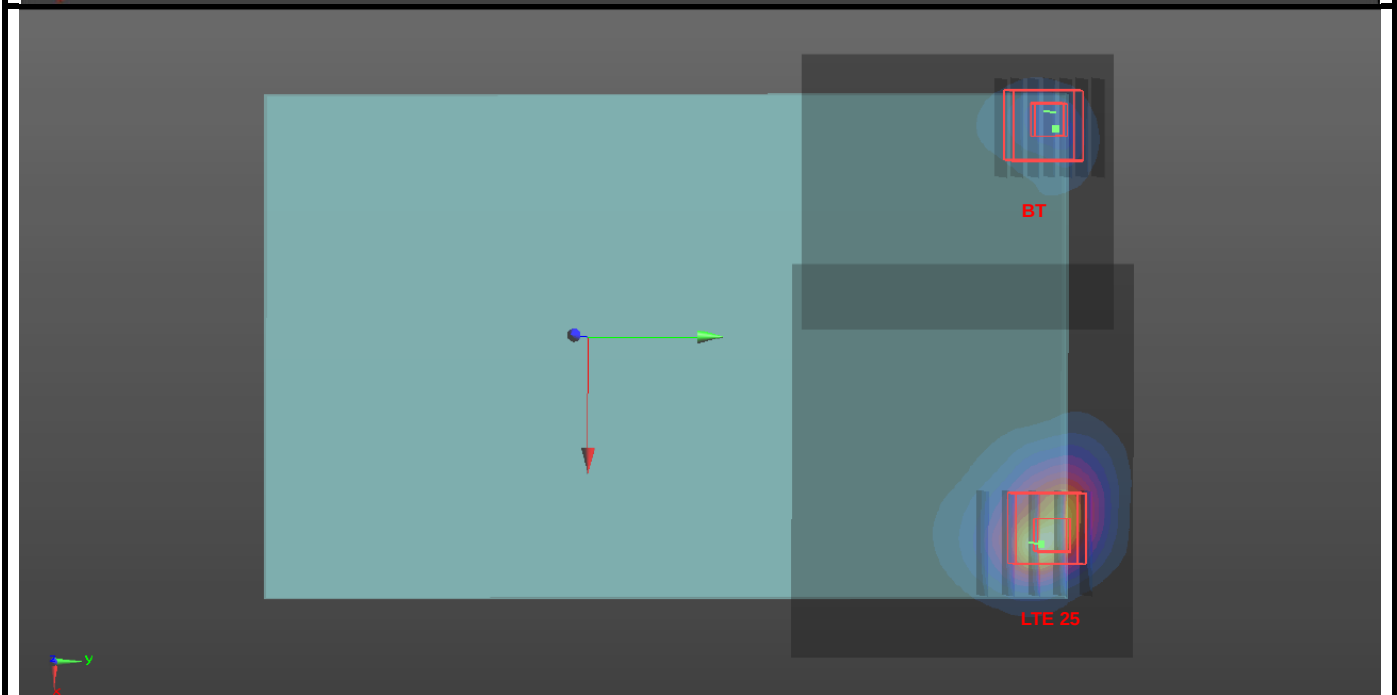
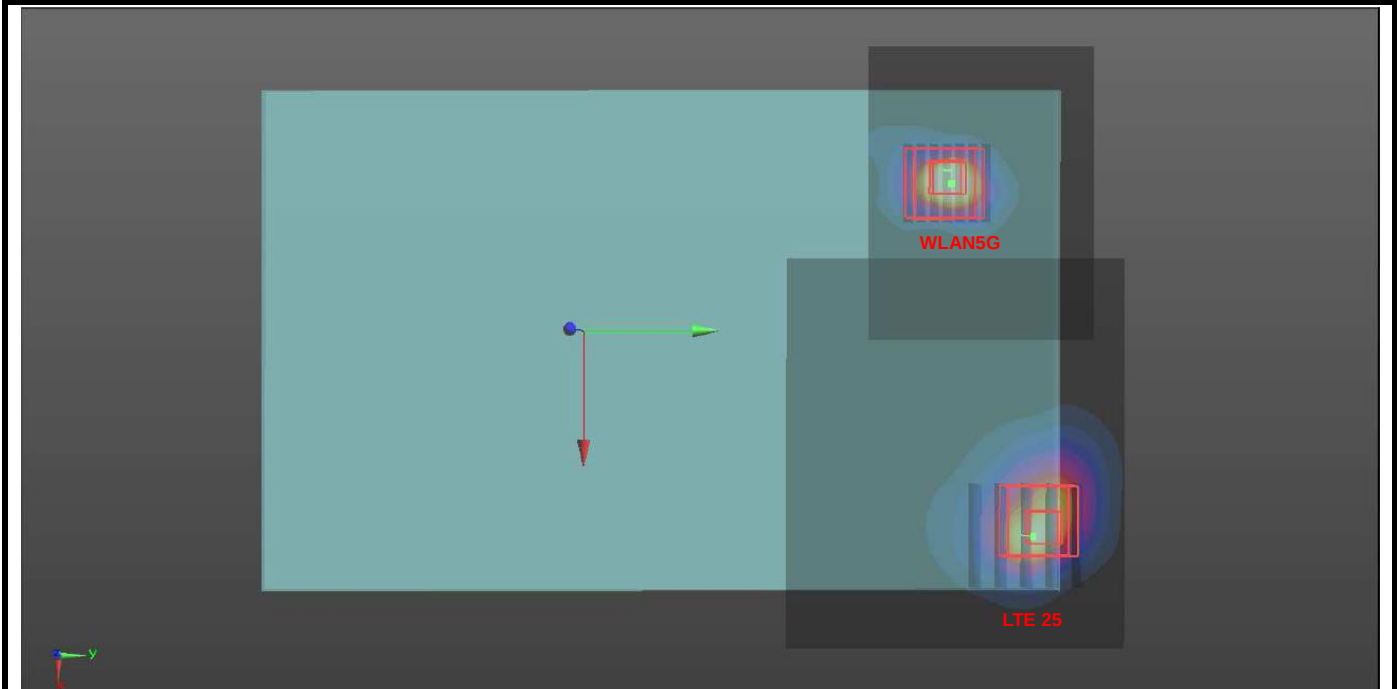
# FCC SAR Test Report

| Band     | Position  | SAR<br>(W/kg) | Gap<br>(mm) | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|-----------|---------------|-------------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|          |           |               |             | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 25   | Rear Face | 1.05          | 0           | 0.0605                | 0.117 | -0.179 | 125.4                  | 1.86                    | 0.02             | Not required        |
| WLAN2.4G |           | 0.81          | 0           | -0.0648               | 0.111 | -0.179 |                        |                         |                  |                     |



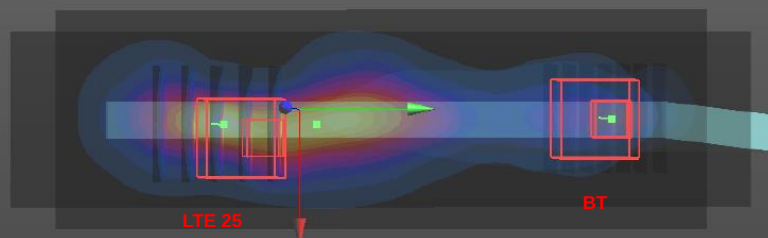
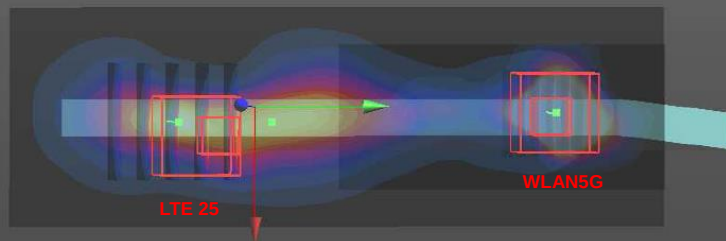
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap<br>(mm) | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|-------------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               |             | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 25 | Rear Face | 1.05          | 0           | 0.0605                | 0.117 | -0.179 | 115.5                  | 1.60                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0           | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 25 | Rear Face | 1.05          | 0           | 0.0605                | 0.117 | -0.179 | 131.8                  | 1.31                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0           | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



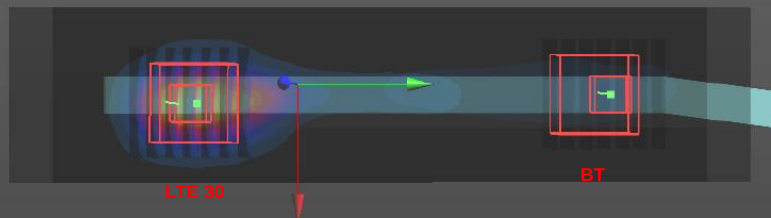
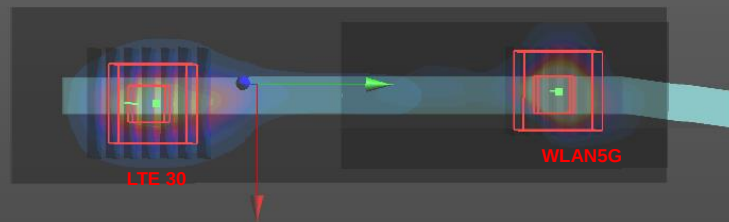
# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap  | SAR peak location (m) |         |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------|-----------------------|---------|--------|------------------|-------------------|---------------|------------------|
|        |          |            | (mm) | X                     | Y       | Z      |                  |                   |               |                  |
| LTE 25 | Top Side | 0.44       | 0    | 0.0015                | -0.0435 | -0.18  | 103.6            | 1.54              | 0.02          | Not required     |
| WLAN5G |          | 1.10       | 0    | -0.001                | 0.06    | -0.183 |                  |                   |               |                  |
| LTE 25 | Top Side | 0.44       | 0    | 0.0015                | -0.0435 | -0.18  | 107.1            | 0.63              | 0.00          | Not required     |
| BT     |          | 0.19       | 0    | 1.75E-10              | 0.0636  | -0.18  |                  |                   |               |                  |



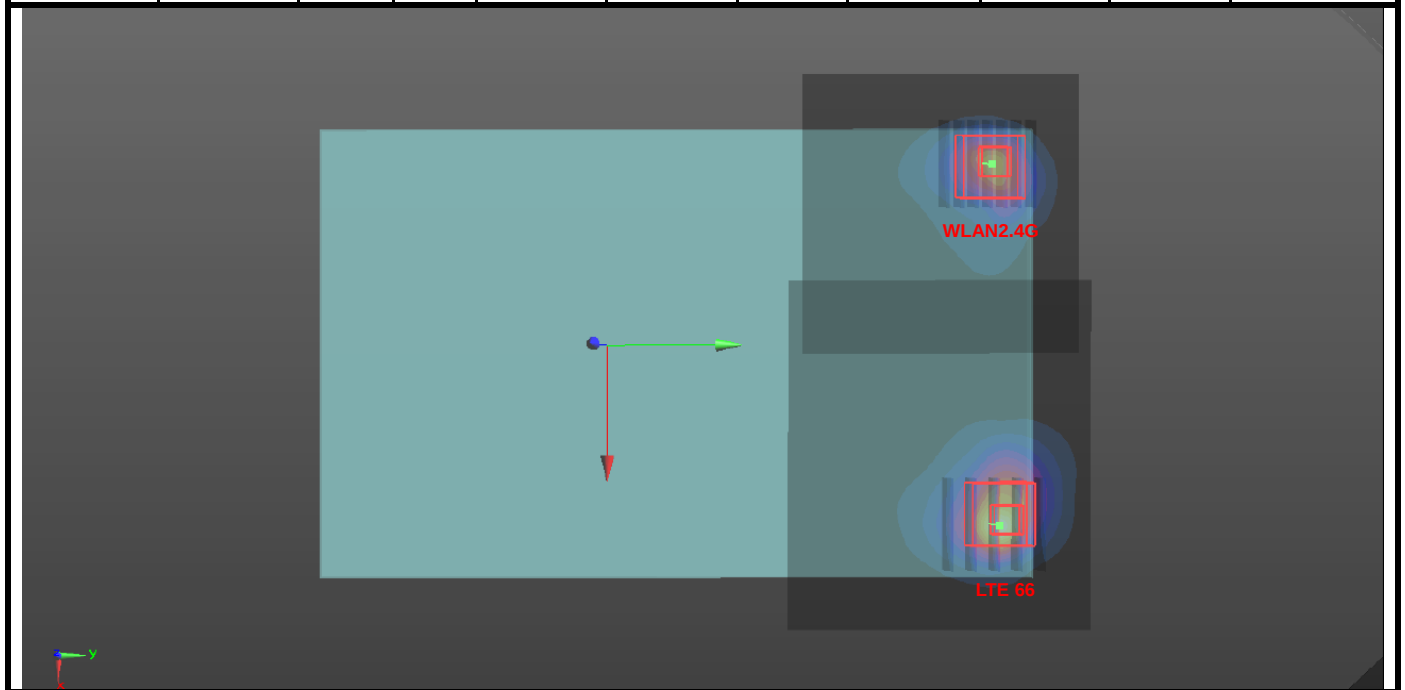
# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap  | SAR peak location (m) |         |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------|-----------------------|---------|--------|------------------|-------------------|---------------|------------------|
|        |          |            | (mm) | X                     | Y       | Z      |                  |                   |               |                  |
| LTE 30 | Top Side | 0.87       | 0    | 0.0024                | -0.0554 | -0.18  | 115.5            | 1.97              | 0.02          | Not required     |
| WLAN5G |          | 1.10       | 0    | -0.001                | 0.06    | -0.183 |                  |                   |               |                  |
| LTE 30 | Top Side | 0.87       | 0    | 0.0024                | -0.0554 | -0.18  | 119.0            | 1.06              | 0.01          | Not required     |
| BT     |          | 0.19       | 0    | 1.75E-10              | 0.0636  | -0.18  |                  |                   |               |                  |



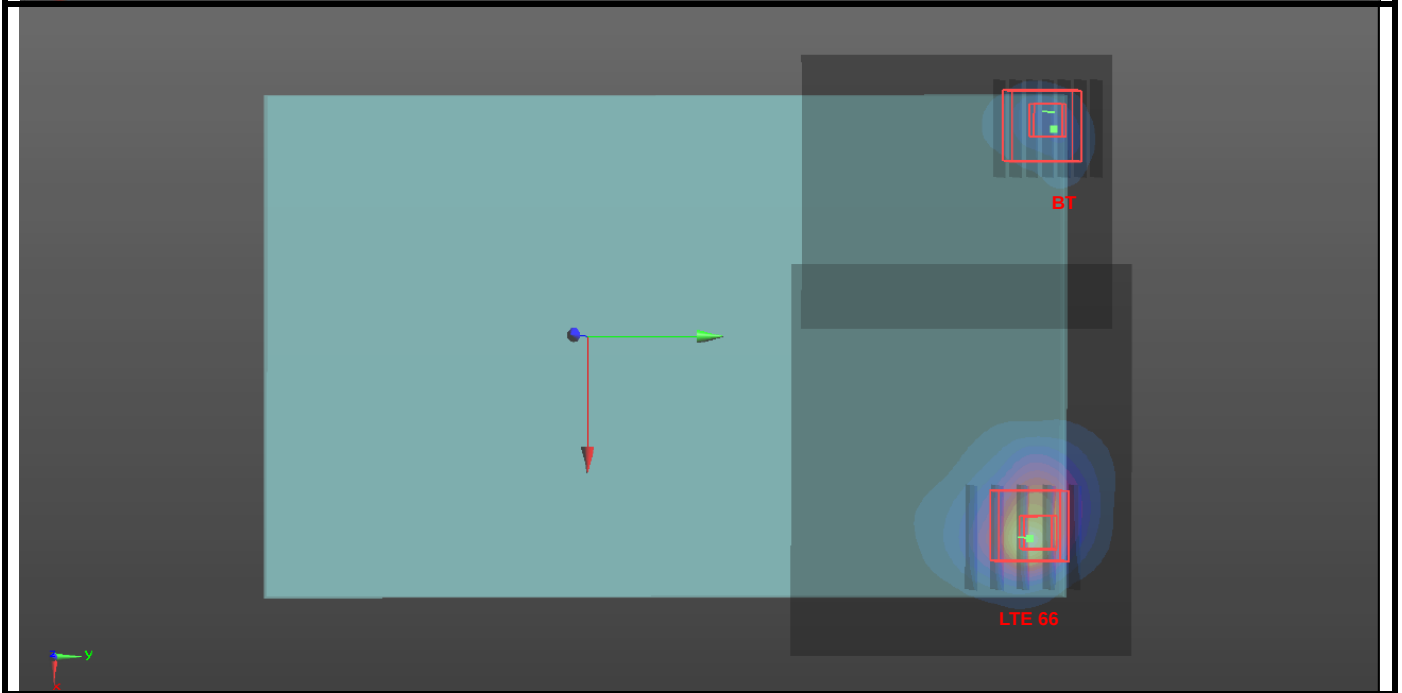
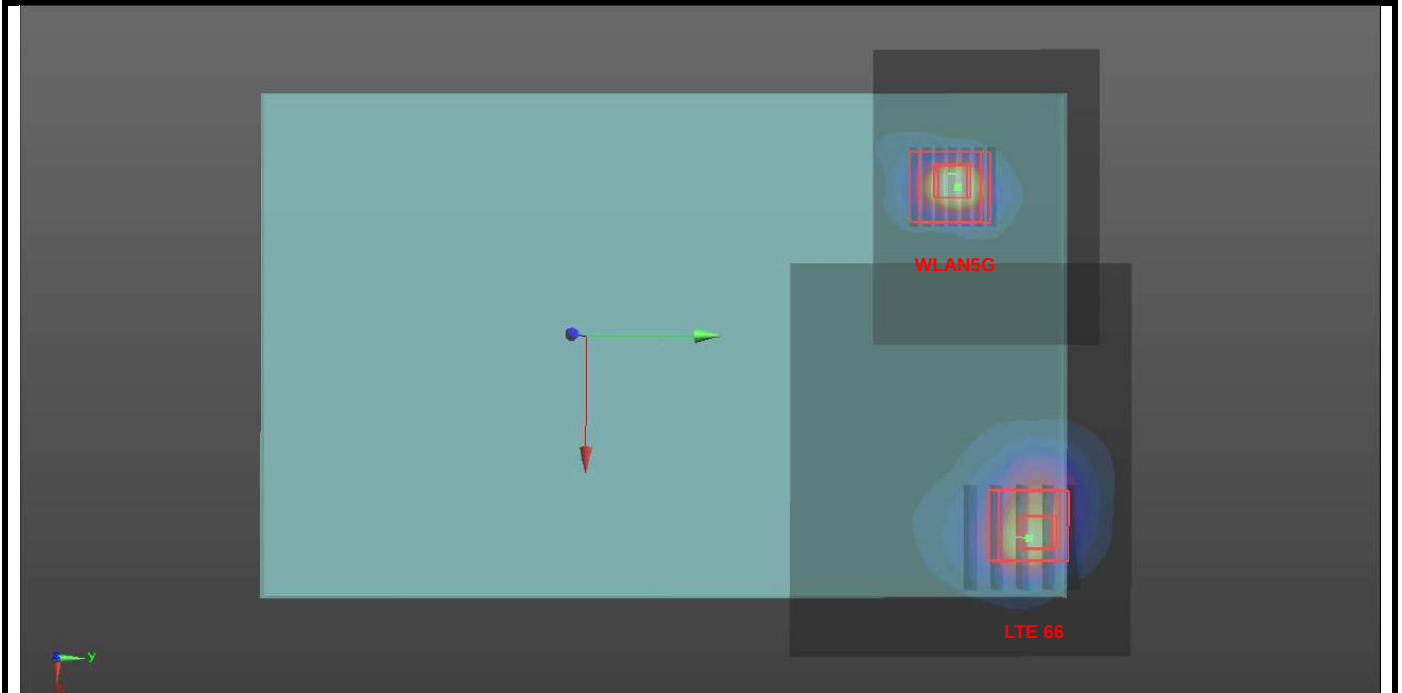
# FCC SAR Test Report

| Band     | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|          |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 66   | Rear Face | 1.07          | 0    | 0.059                 | 0.114 | -0.179 | 123.8                  | 1.88                    | 0.02             | Not required        |
| WLAN2.4G |           | 0.81          | 0    | -0.0648               | 0.111 | -0.179 |                        |                         |                  |                     |



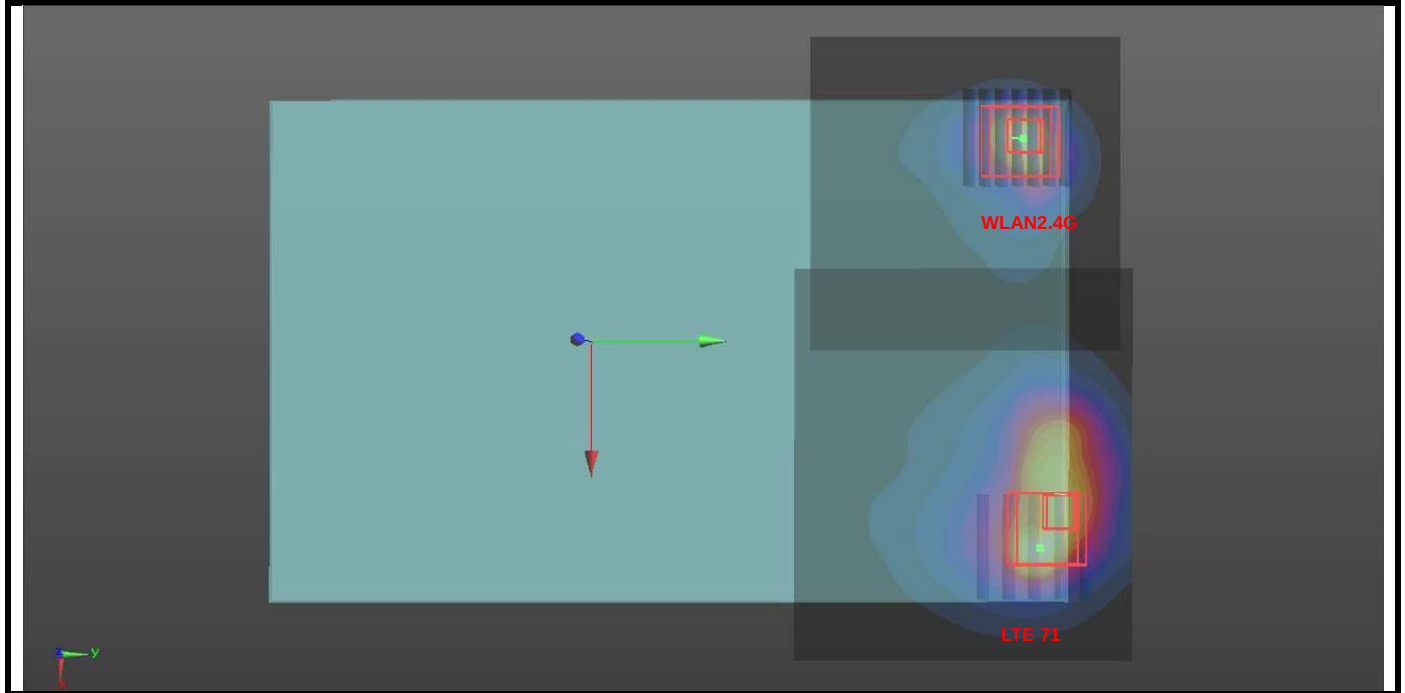
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 66 | Rear Face | 1.07          | 0    | 0.059                 | 0.114 | -0.179 | 113.4                  | 1.61                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0    | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 66 | Rear Face | 1.07          | 0    | 0.059                 | 0.114 | -0.179 | 130.4                  | 1.32                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0    | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



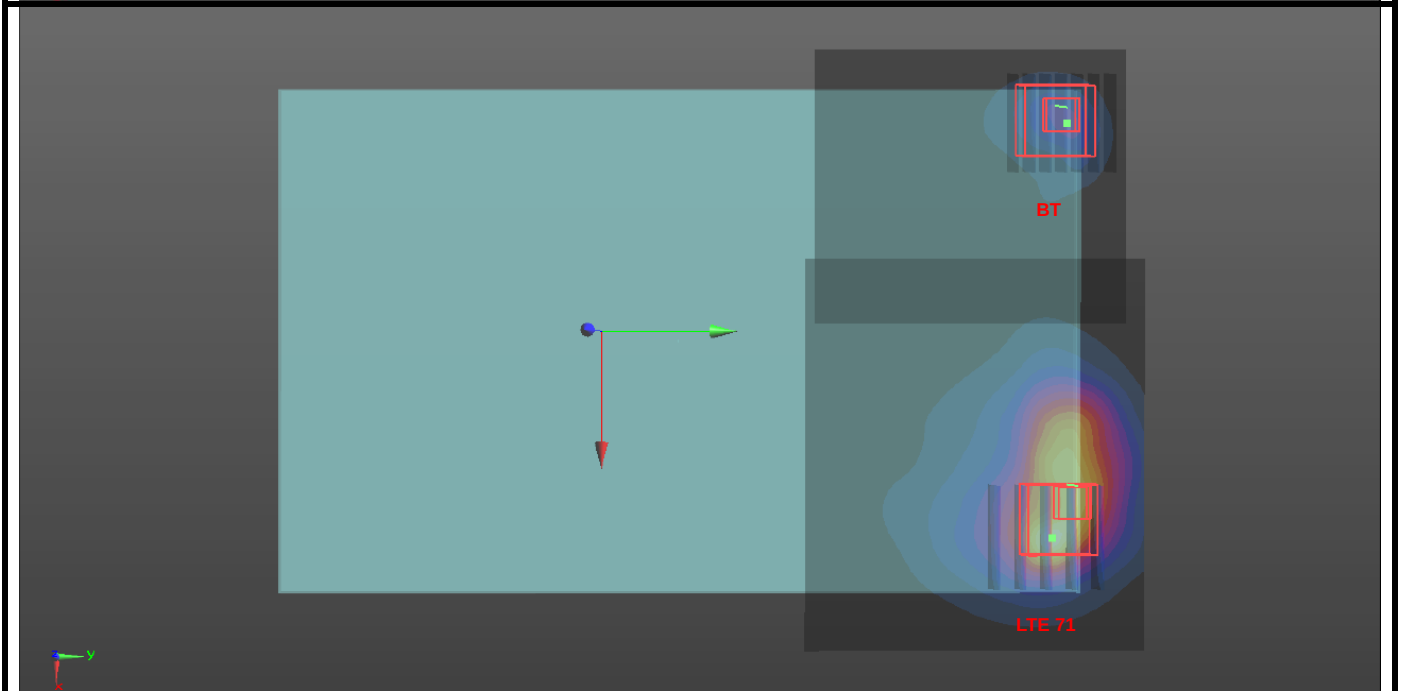
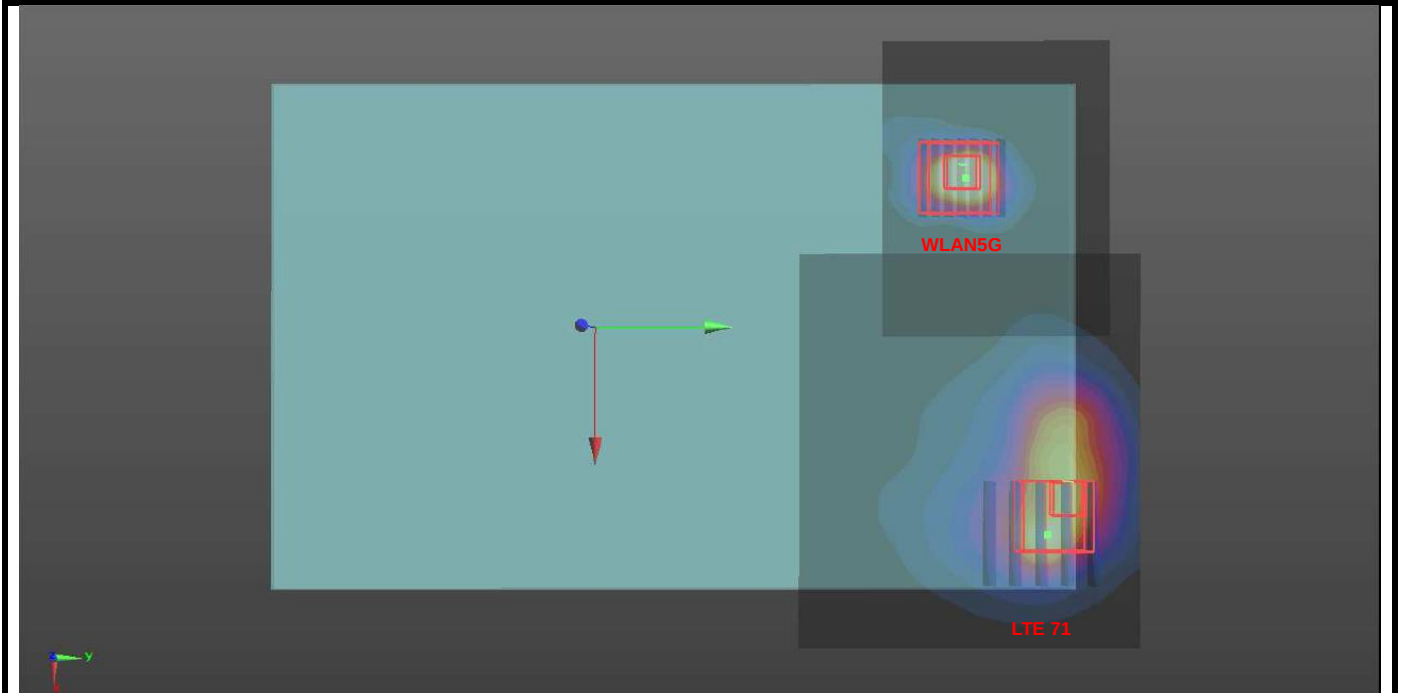
# FCC SAR Test Report

| Band     | Position  | SAR (W/kg) | Gap (mm) | SAR peak location (m) |       |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|----------|-----------|------------|----------|-----------------------|-------|--------|------------------|-------------------|---------------|------------------|
|          |           |            |          | X                     | Y     | Z      |                  |                   |               |                  |
| LTE 71   | Rear Face | 1.03       | 0        | 0.03                  | 0.117 | -0.179 | 95.0             | 1.84              | 0.03          | Not required     |
| WLAN2.4G |           | 0.81       | 0        | -0.0648               | 0.111 | -0.179 |                  |                   |               |                  |



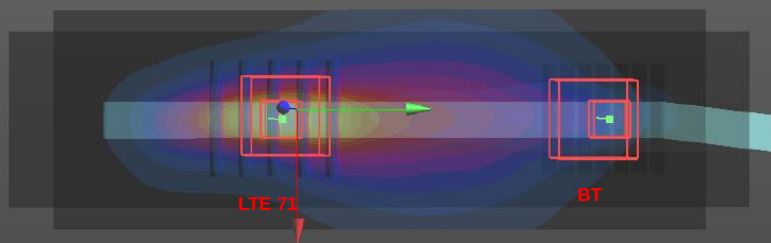
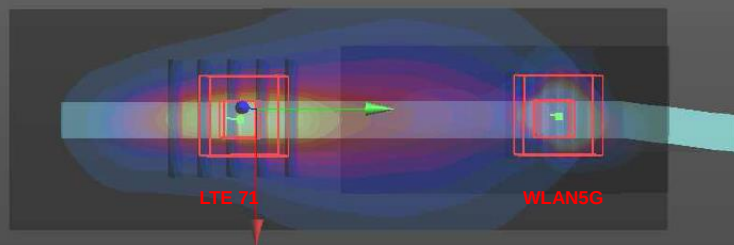
# FCC SAR Test Report

| Band   | Position  | SAR<br>(W/kg) | Gap  | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|-----------|---------------|------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |           |               | (mm) | X                     | Y     | Z      |                        |                         |                  |                     |
| LTE 71 | Rear Face | 1.03          | 0    | 0.03                  | 0.117 | -0.179 | 86.1                   | 1.57                    | 0.02             | Not required        |
| WLAN5G |           | 0.55          | 0    | -0.052                | 0.091 | -0.182 |                        |                         |                  |                     |
| LTE 71 | Rear Face | 1.03          | 0    | 0.03                  | 0.117 | -0.179 | 101.3                  | 1.28                    | 0.01             | Not required        |
| BT     |           | 0.25          | 0    | -0.0712               | 0.121 | -0.179 |                        |                         |                  |                     |



# FCC SAR Test Report

| Band   | Position | SAR (W/kg) | Gap (mm) | SAR peak location (m) |        |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|----------|-----------------------|--------|--------|------------------|-------------------|---------------|------------------|
|        |          |            |          | X                     | Y      | Z      |                  |                   |               |                  |
| LTE 71 | Top Side | 0.77       | 0        | 1.75E-10              | -0.027 | -0.18  | 87.1             | 1.87              | 0.03          | Not required     |
| WLAN5G |          | 1.10       | 0        | -0.001                | 0.06   | -0.183 |                  |                   |               |                  |
| LTE 71 | Top Side | 0.77       | 0        | 1.75E-10              | -0.027 | -0.18  | 90.6             | 0.96              | 0.01          | Not required     |
| BT     |          | 0.19       | 0        | 1.75E-10              | 0.0636 | -0.18  |                  |                   |               |                  |



Test Engineer : Yuyu Lu, and Dennis Ye

## 5. Calibration of Test Equipment

| Equipment                       | Manufacturer | Model          | SN         | Cal. Date     | Cal. Interval |
|---------------------------------|--------------|----------------|------------|---------------|---------------|
| System Validation Dipole        | SPEAG        | D750V3         | 1067       | Aug. 28, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D835V2         | 4d139      | Aug. 28, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D1750V2        | 1071       | Aug. 29, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D1900V2        | 5d159      | Aug. 27, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D2300V2        | 1053       | Aug. 29, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D2450V2        | 893        | Aug. 27, 2020 | 1 Year        |
| System Validation Dipole        | SPEAG        | D5GHzV2        | 1133       | Aug. 20, 2020 | 1 Year        |
| Dielectric Probe Kit            | SPEAG        | DAK-3.5        | 1076       | Aug. 19, 2020 | 1 Year        |
| Dosimetric E-Field Probe        | SPEAG        | EX3DV4         | 3873       | Aug. 27, 2020 | 1 Year        |
| Data Acquisition Electronics    | SPEAG        | DAE4           | 1341       | Aug. 26, 2020 | 1 Year        |
| Radio Communication Analyzer    | ANRITSU      | MT8820C        | 6201465426 | Feb. 25, 2021 | 1 Year        |
| Wireless Communication Test Set | Agilent      | E5515C         | MY50260600 | Jun. 03, 2020 | 1 Year        |
| ENA Series Network Analyzer     | Agilent      | E5071C         | MY46214638 | Jun. 03, 2020 | 1 Year        |
| Spectrum Analyzer               | KEYSIGHT     | N9010A         | MY54510355 | Jul. 08, 2020 | 1 Year        |
| MXG Analog Signal Generator     | KEYSIGHT     | N5183A         | MY50143024 | Mar. 09, 2021 | 1 Year        |
| Power Sensor                    | R&S          | NRP-Z21        | 105007     | Oct. 14, 2020 | 1 Year        |
| Power Meter                     | Agilent      | N1914A         | MY52180044 | Mar. 02, 2021 | 1 Year        |
| Power Sensor                    | Agilent      | E9304A H18     | MY52050011 | Feb. 25, 2021 | 1 Year        |
| Temp. & Humi. Recorder          | CLOCK        | HTC-1          | 157248     | Jun. 07, 2020 | 1 Year        |
| Electronic Thermometer          | YONGFA       | YF-160A        | 120100323  | Jun. 07, 2020 | 1 Year        |
| Coupler                         | Woken        | 0110A056020-10 | COM27RW1A3 | Jul. 01, 2020 | 1 Year        |

# FCC SAR Test Report

## 6. Measurement Uncertainty

| DASY5 Uncertainty Budget          |                        |             |         |         |          |                                |                                 |           |
|-----------------------------------|------------------------|-------------|---------|---------|----------|--------------------------------|---------------------------------|-----------|
| Error Description                 | Uncertainty Value (±%) | Probability | Divisor | (Ci) 1g | (Ci) 10g | Standard Uncertainty (1g) (±%) | Standard Uncertainty (10g) (±%) | (Vi) Veff |
| <b>Measurement System</b>         |                        |             |         |         |          |                                |                                 |           |
| Probe Calibration                 | 6.0                    | N           | 1       | 1       | 1        | 6.0                            | 6.0                             | ∞         |
| Axial Isotropy                    | 4.7                    | R           | 1.732   | 0.7     | 0.7      | 1.9                            | 1.9                             | ∞         |
| Hemispherical Isotropy            | 9.6                    | R           | 1.732   | 0.7     | 0.7      | 3.9                            | 3.9                             | ∞         |
| Boundary Effects                  | 1.0                    | R           | 1.732   | 1       | 1        | 0.6                            | 0.6                             | ∞         |
| Linearity                         | 4.7                    | R           | 1.732   | 1       | 1        | 2.7                            | 2.7                             | ∞         |
| System Detection Limits           | 1.0                    | R           | 1.732   | 1       | 1        | 0.6                            | 0.6                             | ∞         |
| Modulation Response               | 3.2                    | R           | 1.732   | 1       | 1        | 1.8                            | 1.8                             | ∞         |
| Readout Electronics               | 0.3                    | N           | 1       | 1       | 1        | 0.3                            | 0.3                             | ∞         |
| Response Time                     | 0.0                    | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             | ∞         |
| Integration Time                  | 2.6                    | R           | 1.732   | 1       | 1        | 1.5                            | 1.5                             | ∞         |
| RF Ambient Noise                  | 3.0                    | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             | ∞         |
| RF Ambient Reflections            | 3.0                    | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             | ∞         |
| Probe Positioner                  | 0.4                    | R           | 1.732   | 1       | 1        | 0.2                            | 0.2                             | ∞         |
| Probe Positioning                 | 2.9                    | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             | ∞         |
| Max. SAR Eval.                    | 2.0                    | R           | 1.732   | 1       | 1        | 1.2                            | 1.2                             | ∞         |
| <b>Test Sample Related</b>        |                        |             |         |         |          |                                |                                 |           |
| Device Positioning                | 3.0                    | N           | 1       | 1       | 1        | 3.0                            | 3.0                             | 35        |
| Device Holder                     | 3.6                    | N           | 1       | 1       | 1        | 3.6                            | 3.6                             | 12        |
| Power Drift                       | 5.0                    | R           | 1.732   | 1       | 1        | 2.9                            | 2.9                             | ∞         |
| Power Scaling                     | 0.0                    | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             | ∞         |
| <b>Phantom and Setup</b>          |                        |             |         |         |          |                                |                                 |           |
| Phantom Uncertainty               | 6.1                    | R           | 1.732   | 1       | 1        | 3.5                            | 3.5                             | ∞         |
| SAR correction                    | 0.0                    | R           | 1.732   | 1       | 0.84     | 0.0                            | 0.0                             | ∞         |
| Liquid Conductivity Repeatability | 0.2                    | N           | 1       | 0.78    | 0.71     | 0.1                            | 0.1                             | 5         |
| Liquid Conductivity (target)      | 5.0                    | R           | 1.732   | 0.78    | 0.71     | 2.3                            | 2.0                             | ∞         |
| Liquid Conductivity (mea.)        | 2.5                    | R           | 1.732   | 0.78    | 0.71     | 1.1                            | 1.0                             | ∞         |
| Temp. unc. - Conductivity         | 3.4                    | R           | 1.732   | 0.78    | 0.71     | 1.5                            | 1.4                             | ∞         |
| Liquid Permittivity Repeatability | 0.15                   | N           | 1       | 0.23    | 0.26     | 0.0                            | 0.0                             | 5         |
| Liquid Permittivity (target)      | 5.0                    | R           | 1.732   | 0.23    | 0.26     | 0.7                            | 0.8                             | ∞         |
| Liquid Permittivity (mea.)        | 2.5                    | R           | 1.732   | 0.23    | 0.26     | 0.3                            | 0.4                             | ∞         |
| Temp. unc. - Permittivity         | 0.83                   | R           | 1.732   | 0.23    | 0.26     | 0.1                            | 0.1                             | ∞         |
| <b>Combined Std. Uncertainty</b>  |                        |             |         |         |          | 11.4%                          | 11.4%                           | 1013      |
| <b>Coverage Factor for 95 %</b>   |                        |             |         |         |          | K=2                            | K=2                             |           |
| <b>Expanded STD Uncertainty</b>   |                        |             |         |         |          | 22.9%                          | 22.7%                           |           |

Uncertainty budget for frequency range 30 MHz to 3 GHz

# FCC SAR Test Report

| DASY5 Uncertainty Budget          |                        |             |         |         |          |                                |                                 |           |
|-----------------------------------|------------------------|-------------|---------|---------|----------|--------------------------------|---------------------------------|-----------|
| Error Description                 | Uncertainty Value (±%) | Probability | Divisor | (Ci) 1g | (Ci) 10g | Standard Uncertainty (1g) (±%) | Standard Uncertainty (10g) (±%) | (Vi) Veff |
| <b>Measurement System</b>         |                        |             |         |         |          |                                |                                 |           |
| Probe Calibration                 | 6.55                   | N           | 1       | 1       | 1        | 6.5                            | 6.5                             | ∞         |
| Axial Isotropy                    | 4.7                    | R           | 1.732   | 0.7     | 0.7      | 1.9                            | 1.9                             | ∞         |
| Hemispherical Isotropy            | 9.6                    | R           | 1.732   | 0.7     | 0.7      | 3.9                            | 3.9                             | ∞         |
| Boundary Effects                  | 2.0                    | R           | 1.732   | 1       | 1        | 1.2                            | 1.2                             | ∞         |
| Linearity                         | 4.7                    | R           | 1.732   | 1       | 1        | 2.7                            | 2.7                             | ∞         |
| System Detection Limits           | 1.0                    | R           | 1.732   | 1       | 1        | 0.6                            | 0.6                             | ∞         |
| Modulation Response               | 3.2                    | R           | 1.732   | 1       | 1        | 1.8                            | 1.8                             | ∞         |
| Readout Electronics               | 0.3                    | N           | 1       | 1       | 1        | 0.3                            | 0.3                             | ∞         |
| Response Time                     | 0.0                    | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             | ∞         |
| Integration Time                  | 2.6                    | R           | 1.732   | 1       | 1        | 1.5                            | 1.5                             | ∞         |
| RF Ambient Noise                  | 3.0                    | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             | ∞         |
| RF Ambient Reflections            | 3.0                    | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             | ∞         |
| Probe Positioner                  | 0.4                    | R           | 1.732   | 1       | 1        | 0.2                            | 0.2                             | ∞         |
| Probe Positioning                 | 6.7                    | R           | 1.732   | 1       | 1        | 3.9                            | 3.9                             | ∞         |
| Max. SAR Eval.                    | 4.0                    | R           | 1.732   | 1       | 1        | 2.3                            | 2.3                             | ∞         |
| <b>Test Sample Related</b>        |                        |             |         |         |          |                                |                                 |           |
| Device Positioning                | 3.0                    | N           | 1       | 1       | 1        | 3.0                            | 3.0                             | 35        |
| Device Holder                     | 3.6                    | N           | 1       | 1       | 1        | 3.6                            | 3.6                             | 12        |
| Power Drift                       | 5.0                    | R           | 1.732   | 1       | 1        | 2.9                            | 2.9                             | ∞         |
| Power Scaling                     | 0.0                    | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             | ∞         |
| <b>Phantom and Setup</b>          |                        |             |         |         |          |                                |                                 |           |
| Phantom Uncertainty               | 6.6                    | R           | 1.732   | 1       | 1        | 3.8                            | 3.8                             | ∞         |
| SAR correction                    | 0.0                    | R           | 1.732   | 1       | 0.84     | 0.0                            | 0.0                             | ∞         |
| Liquid Conductivity Repeatability | 0.2                    | N           | 1       | 0.78    | 0.71     | 0.1                            | 0.1                             | 5         |
| Liquid Conductivity (target)      | 5.0                    | R           | 1.732   | 0.78    | 0.71     | 2.3                            | 2.0                             | ∞         |
| Liquid Conductivity (mea.)        | 2.5                    | R           | 1.732   | 0.78    | 0.71     | 1.1                            | 1.0                             | ∞         |
| Temp. unc. - Conductivity         | 3.4                    | R           | 1.732   | 0.78    | 0.71     | 1.5                            | 1.4                             | ∞         |
| Liquid Permittivity Repeatability | 0.15                   | N           | 1       | 0.23    | 0.26     | 0.0                            | 0.0                             | 5         |
| Liquid Permittivity (target)      | 5.0                    | R           | 1.732   | 0.23    | 0.26     | 0.7                            | 0.8                             | ∞         |
| Liquid Permittivity (mea.)        | 2.5                    | R           | 1.732   | 0.23    | 0.26     | 0.3                            | 0.4                             | ∞         |
| Temp. unc. - Permittivity         | 0.83                   | R           | 1.732   | 0.23    | 0.26     | 0.1                            | 0.1                             | ∞         |
| <b>Combined Std. Uncertainty</b>  |                        |             |         |         |          | 12.5%                          | 12.5%                           | 1458      |
| <b>Coverage Factor for 95 %</b>   |                        |             |         |         |          | K=2                            | K=2                             |           |
| <b>Expanded STD Uncertainty</b>   |                        |             |         |         |          | 25.0%                          | 24.9%                           |           |

Uncertainty budget for frequency range 3 GHz to 6 GHz

## 7. Information on the Testing Laboratories

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Add: No. B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industry Park, Nanshan District, Shenzhen, Guangdong, China

Tel: 86-755-8869-6566

Fax: 86-755-8869-6577

Email: [customerservice.SW@cn.bureauveritas.com](mailto:customerservice.SW@cn.bureauveritas.com)

Web Site: [www.bureauveritas.com](http://www.bureauveritas.com)

The road map of all our labs can be found in our web site also.

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## Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

## System Check\_HSL750\_210316

### DUT: Dipole:750 MHz;Type:D750V3

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1

Medium: HSL750\_0316 Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.908 \text{ S/m}$ ;  $\epsilon_r = 40.492$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.2^\circ\text{C}$ ; Liquid Temperature :  $22.5^\circ\text{C}$

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.79, 9.79, 9.79); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (71x131x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.91 \text{ W/kg}$

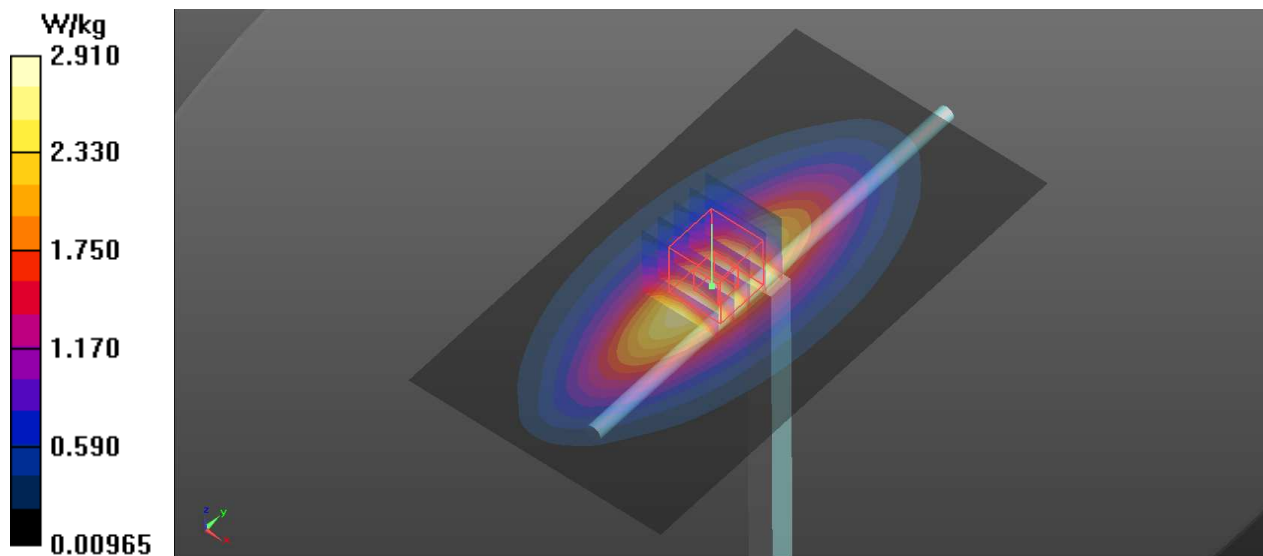
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $56.46 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$

Peak SAR (extrapolated) =  $3.30 \text{ W/kg}$

**SAR(1 g) =  $2.19 \text{ W/kg}$ ; SAR(10 g) =  $1.5 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.95 \text{ W/kg}$



## System Check\_HSL835\_210315

**DUT: Dipole:835 MHz;Type:D835V2**

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium: HSL835\_0315 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.886 \text{ S/m}$ ;  $\epsilon_r = 42.111$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.2^\circ\text{C}$ ; Liquid Temperature :  $22.6^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.46, 9.46, 9.46); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $3.31 \text{ W/kg}$

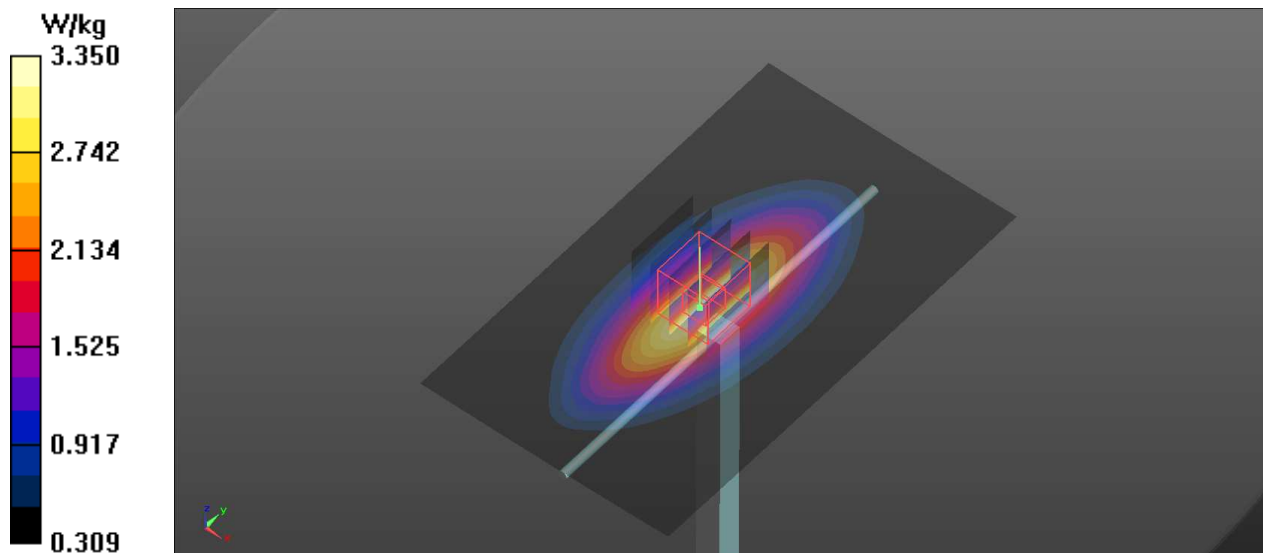
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $60.80 \text{ V/m}$ ; Power Drift =  $0.03 \text{ dB}$

Peak SAR (extrapolated) =  $3.77 \text{ W/kg}$

**SAR(1 g) =  $2.54 \text{ W/kg}$ ; SAR(10 g) =  $1.68 \text{ W/kg}$**

Maximum value of SAR (measured) =  $3.35 \text{ W/kg}$



## System Check\_HSL1750\_210317

### DUT: Dipole:1750 MHz;Type:D1750V2

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1

Medium: HSL1750\_0317 Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.367$  S/m;  $\epsilon_r = 40.695$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6°C; Liquid Temperature : 22.8°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(8.17, 8.17, 8.17); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.0 W/kg

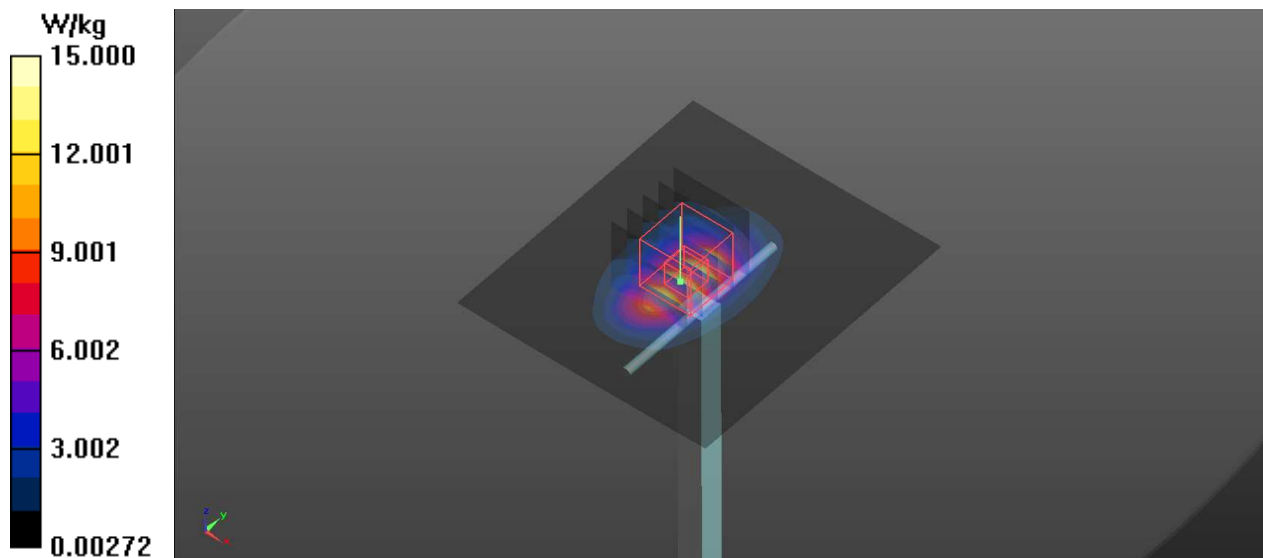
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 103.8 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 17.9 W/kg

**SAR(1 g) = 9.45 W/kg; SAR(10 g) = 4.95 W/kg**

Maximum value of SAR (measured) = 14.8 W/kg



## System Check\_HSL1900\_210318

### DUT: Dipole:1900MHz;Type:D1900V2

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900\_0318 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.399$  S/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.94, 7.94, 7.94); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.0 W/kg

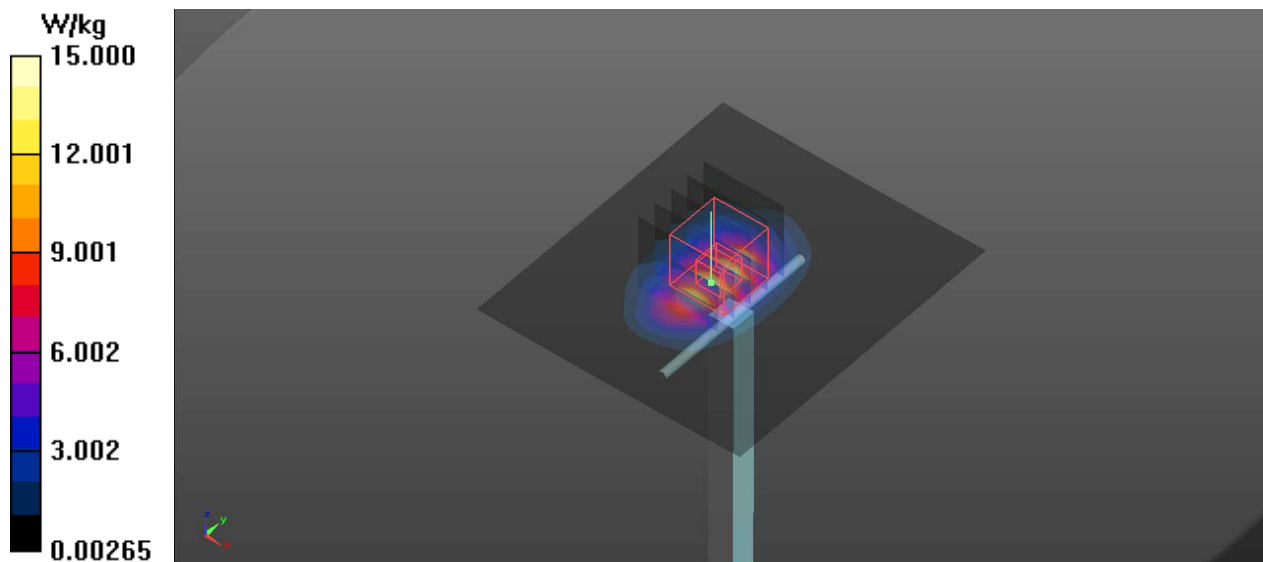
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 93.49 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 17.9 W/kg

**SAR(1 g) = 9.4 W/kg; SAR(10 g) = 4.79 W/kg**

Maximum value of SAR (measured) = 14.8 W/kg



## System Check\_HSL2300\_210319

### DUT: Dipole:2300 MHz;Type:D2300V2

Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: HSL2300\_0319 Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.662$  S/m;  $\epsilon_r = 39.153$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5°C; Liquid Temperature : 22.6°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(7.57, 7.57, 7.57); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (81x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 21.2 W/kg

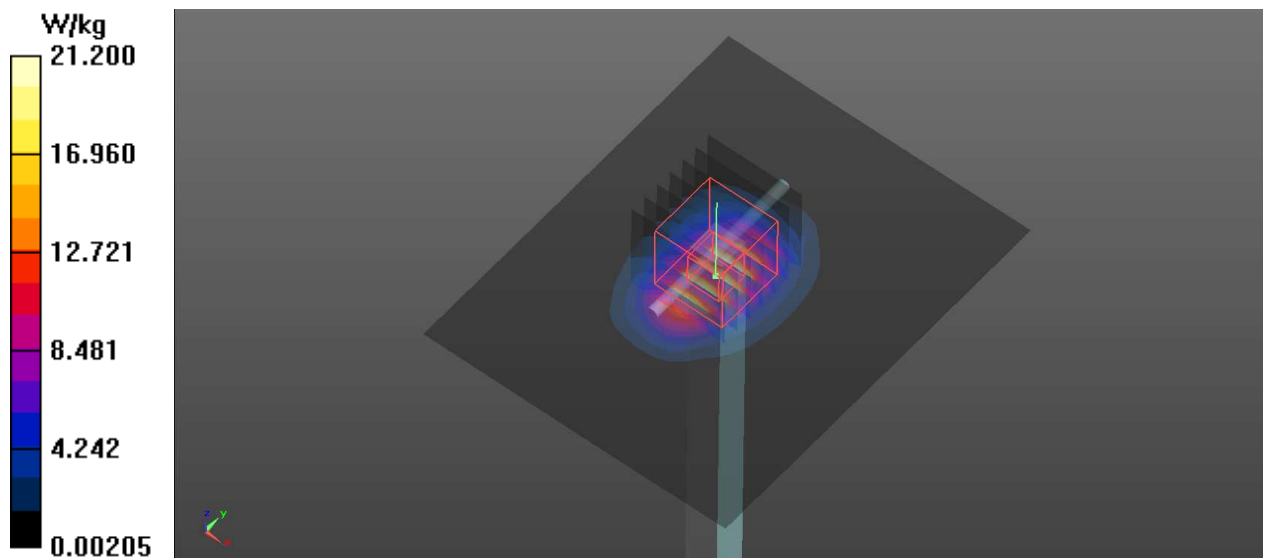
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.2 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 26.2 W/kg

**SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.41 W/kg**

Maximum value of SAR (measured) = 21.5 W/kg



**System Check\_HSL2450\_210320****DUT: Dipole:2450 MHz;Type:D2450V2**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL2450\_0320 Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.782$  S/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.27, 7.27, 7.27); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=250mW/Area Scan (91x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 23.3 W/kg

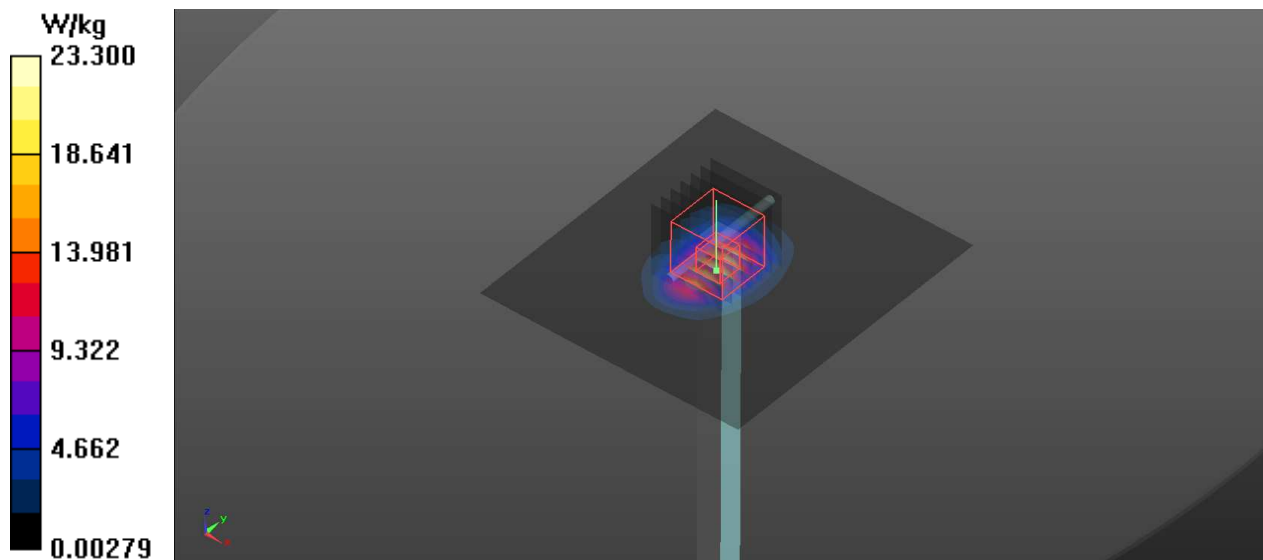
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 113.3 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 28.8 W/kg

**SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.38 W/kg**

Maximum value of SAR (measured) = 23.2 W/kg



## System Check\_HSL5250\_210310

### DUT: Dipole 5GHzV2;Type:D5GHzV2

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0402 Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.725$  S/m;  $\epsilon_r = 37.313$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6°C; Liquid Temperature : 22.5°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.8, 4.8, 4.8); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=100mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.8 W/kg

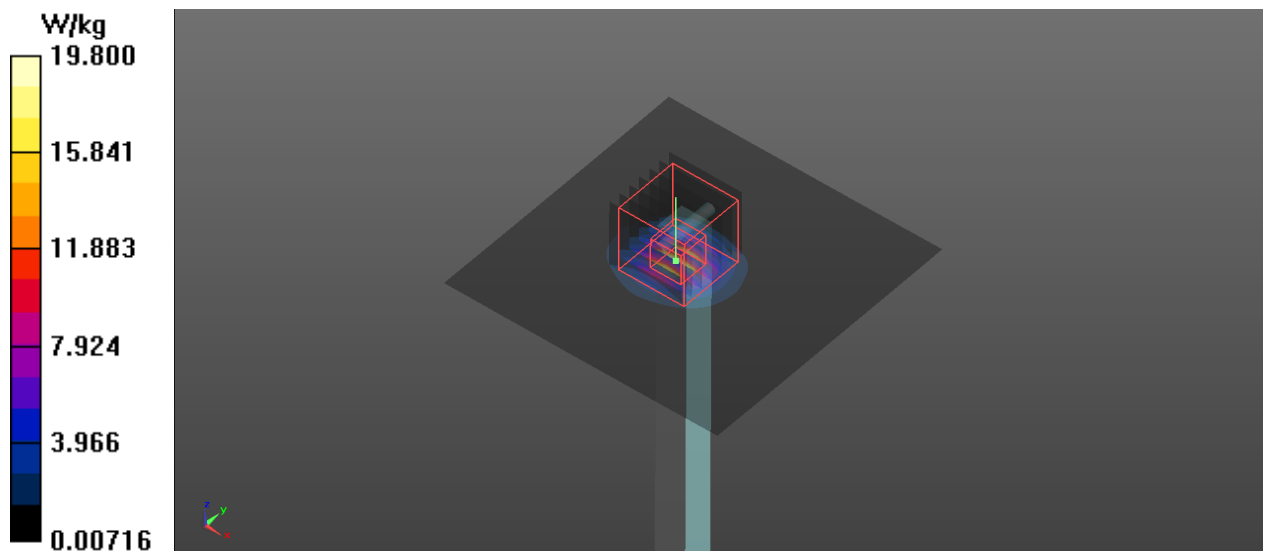
**Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 56.46 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 33.6 W/kg

**SAR(1 g) = 8.26 W/kg; SAR(10 g) = 2.33 W/kg**

Maximum value of SAR (measured) = 20.9 W/kg



## System Check\_HSL5600\_210403

### DUT: Dipole 5GHzV2;Type:D5GHzV2

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0403 Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.066$  S/m;  $\epsilon_r = 36.835$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.5, 4.5, 4.5); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=100mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 21.1 W/kg

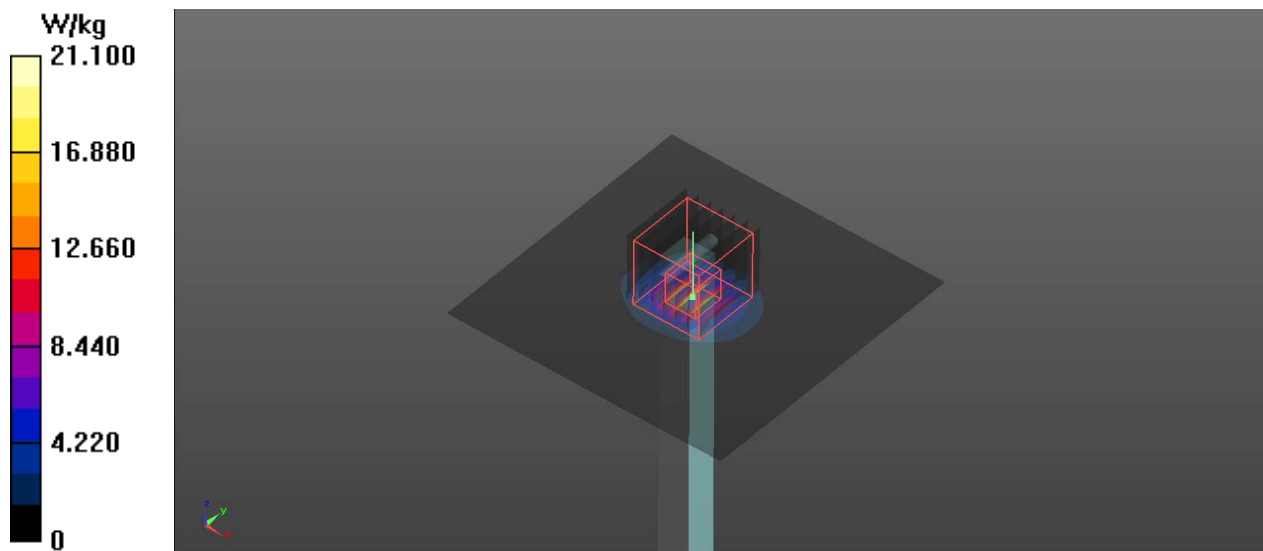
**Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 64.73 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 37.6 W/kg

**SAR(1 g) = 8.82 W/kg; SAR(10 g) = 2.5 W/kg**

Maximum value of SAR (measured) = 22.9 W/kg



## System Check\_HSL5800\_210401

### DUT: Dipole 5GHzV2;Type:D5GHzV2

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0401 Medium parameters used:  $f = 5800$  MHz;  $\sigma = 5.27$  S/m;  $\epsilon_r = 36.569$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.4°C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(4.49, 4.49, 4.49); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Pin=100mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 20.2 W/kg

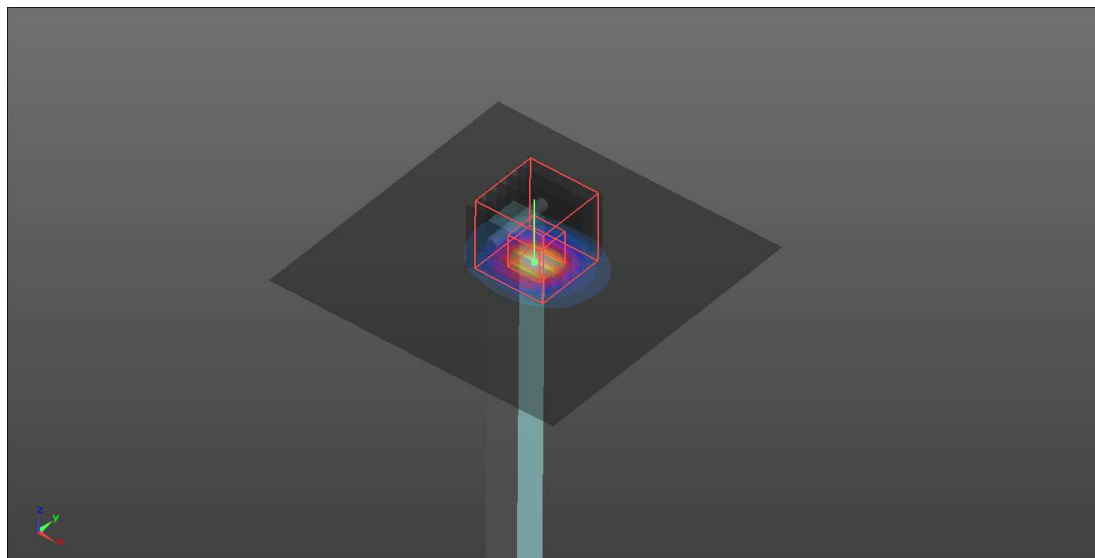
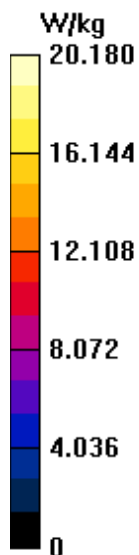
**Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 60.04 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 37.5 W/kg

**SAR(1 g) = 8.24 W/kg; SAR(10 g) = 2.31 W/kg**

Maximum value of SAR (measured) = 21.7 W/kg



### Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

**P01 GSM850\_GPRS12\_Rear Face\_0cm\_Ch189**

Communication System: GPRS12; Frequency: 836.4 MHz; Duty Cycle: 1:2.08

Medium: HSL835\_0315 Medium parameters used:  $f = 836.4$  MHz;  $\sigma = 0.888$  S/m;  $\epsilon_r = 42.093$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2°C; Liquid Temperature : 22.6°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(9.46, 9.46, 9.46); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.718 W/kg

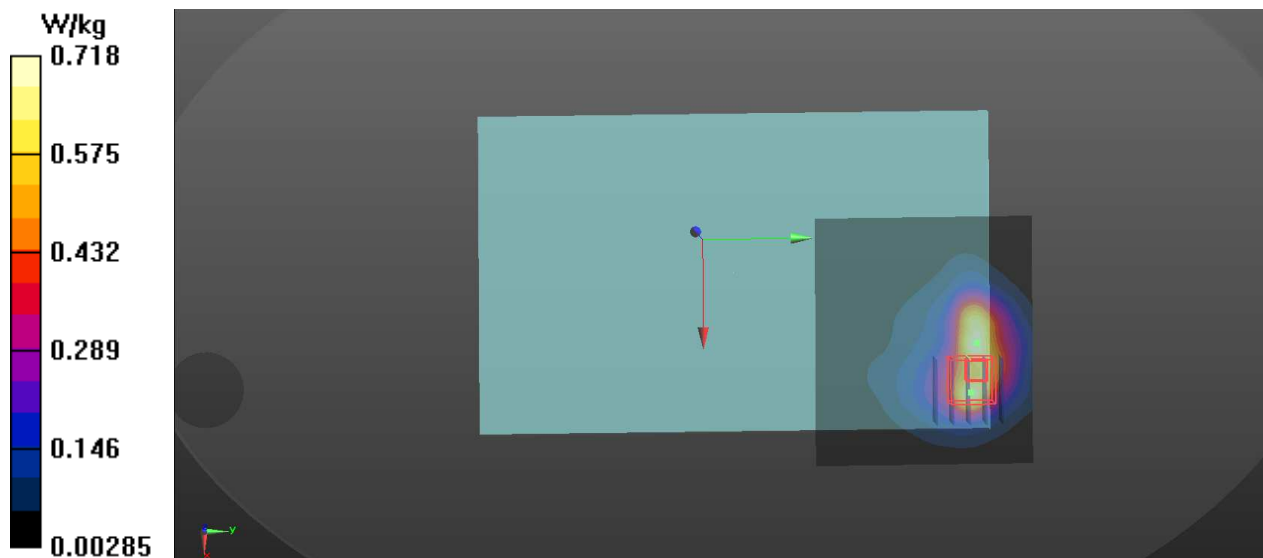
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.440 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.645 W/kg; SAR(10 g) = 0.336 W/kg**

Maximum value of SAR (measured) = 0.699 W/kg



**P02 GSM1900\_GPRS12\_Rear Face\_0cm\_Ch512**

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:2.08

Medium: HSL1900\_0318 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.347$  S/m;  $\epsilon_r = 39.012$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.94, 7.94, 7.94); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.05 W/kg

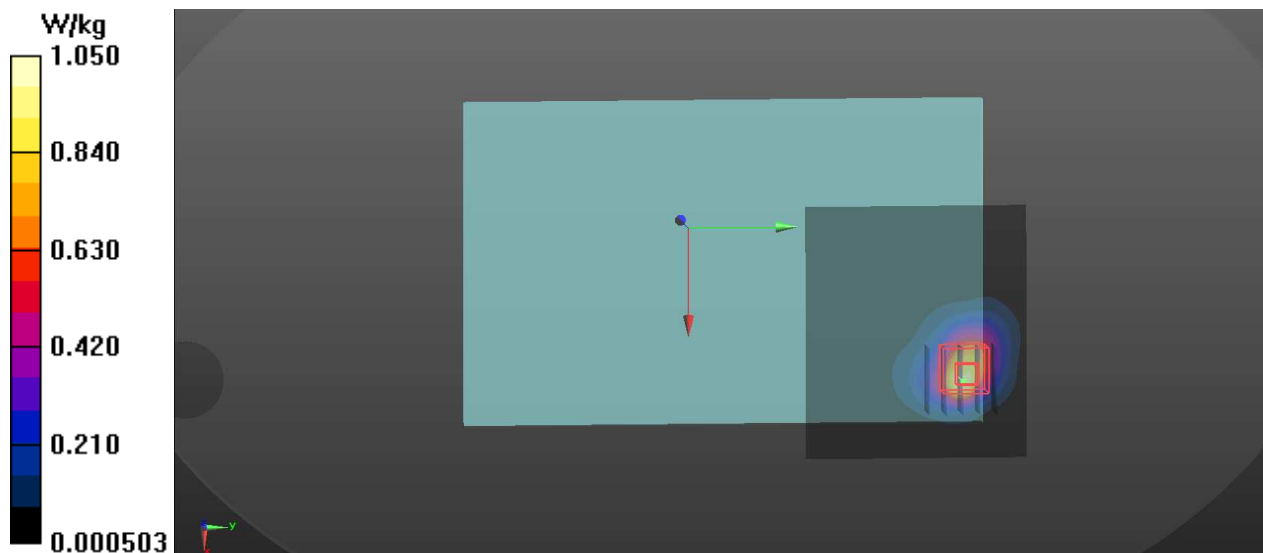
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.8600 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.07 W/kg

**SAR(1 g) = 0.890 W/kg; SAR(10 g) = 0.421 W/kg**

Maximum value of SAR (measured) = 1.03 W/kg



**P03 WCDMA II\_RMC12.2K\_Rear Face\_0cm\_Ch9262**

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL1900\_0318 Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.349$  S/m;  $\epsilon_r = 39.002$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.94, 7.94, 7.94); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.713 W/kg

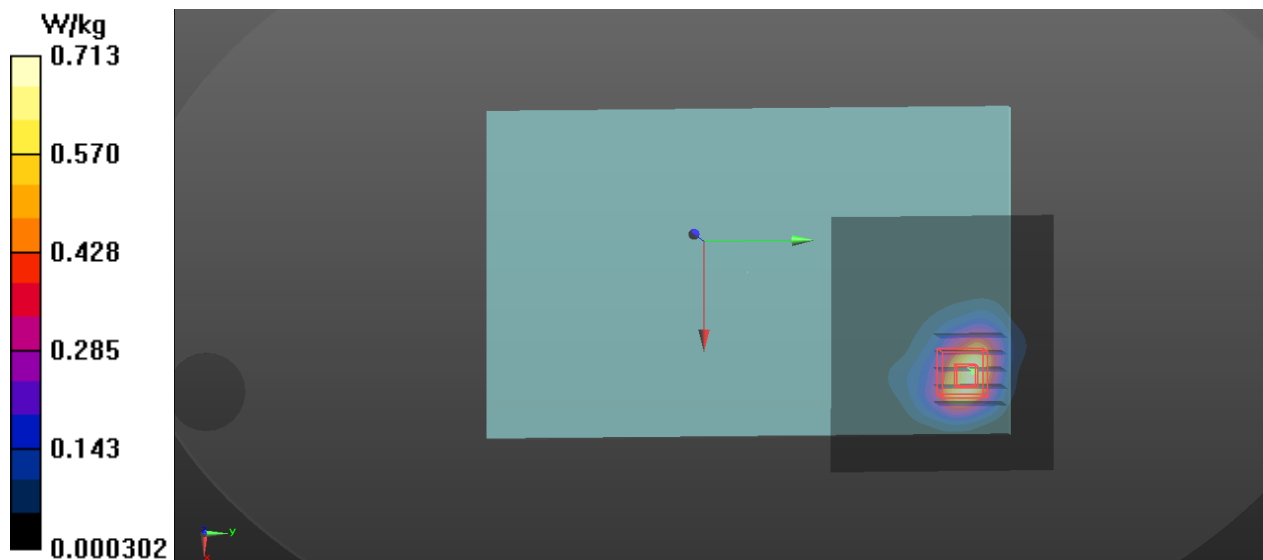
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.7950 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.37 W/kg

**SAR(1 g) = 0.673 W/kg; SAR(10 g) = 0.327 W/kg**

Maximum value of SAR (measured) = 0.749 W/kg



**P04 WCDMA IV\_RMC12.2K\_Left Side\_0.8cm\_Ch1413**

Communication System: WCDMA; Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium: HSL1750\_0317 Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.349$  S/m;  $\epsilon_r = 40.794$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(8.17, 8.17, 8.17); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.850 W/kg

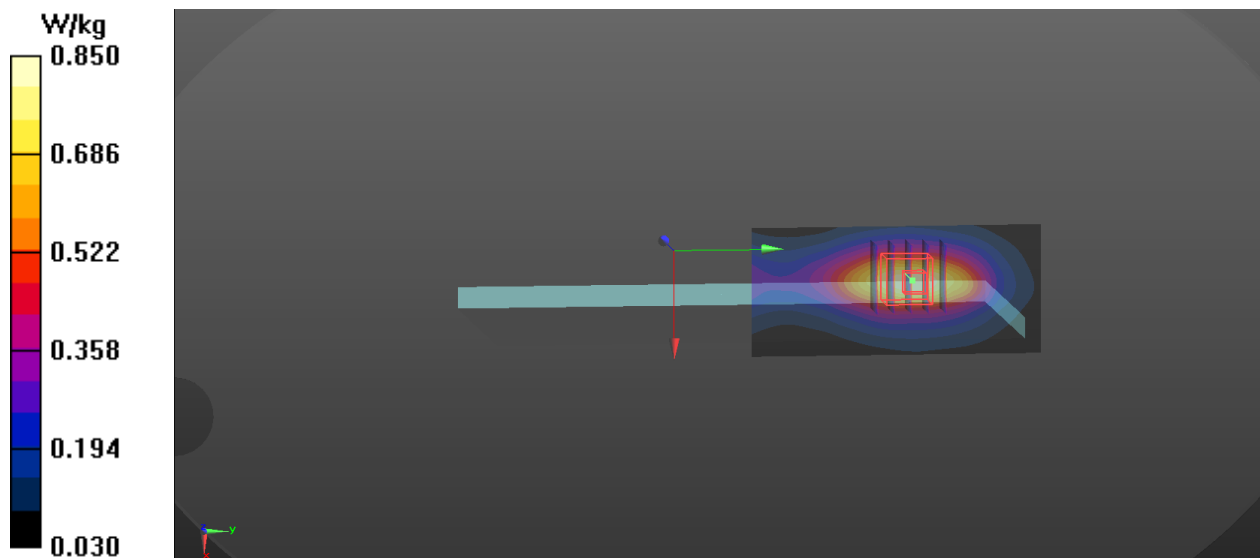
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.81 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.758 W/kg; SAR(10 g) = 0.456 W/kg**

Maximum value of SAR (measured) = 0.841 W/kg



**P05 WCDMA V\_RMC12.2K\_Rear Face\_0cm\_Ch4182**

Communication System: WCDMA; Frequency: 836.4 MHz; Duty Cycle: 1:1

Medium: HSL835\_0315 Medium parameters used:  $f = 836.4$  MHz;  $\sigma = 0.888$  S/m;  $\epsilon_r = 42.093$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2°C; Liquid Temperature : 22.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.46, 9.46, 9.46); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.500 W/kg

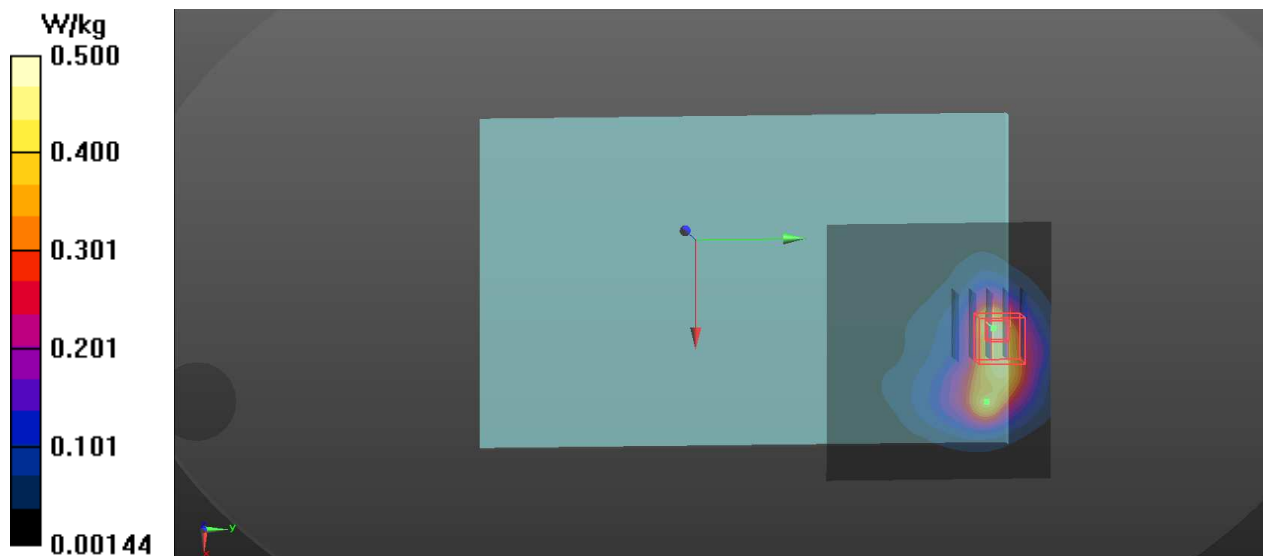
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.8600 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.561 W/kg; SAR(10 g) = 0.280 W/kg**

Maximum value of SAR (measured) = 0.649 W/kg



**P06 LTE 5\_QPSK10M\_Rear Face\_0cm\_Ch20600\_1RB\_OS24**

Communication System: LTE; Frequency: 844 MHz; Duty Cycle: 1:1

Medium: HSL835\_0315 Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.895 \text{ S/m}$ ;  $\epsilon_r = 42.001$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.2^\circ\text{C}$ ; Liquid Temperature :  $22.6^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.46, 9.46, 9.46); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.457 \text{ W/kg}$

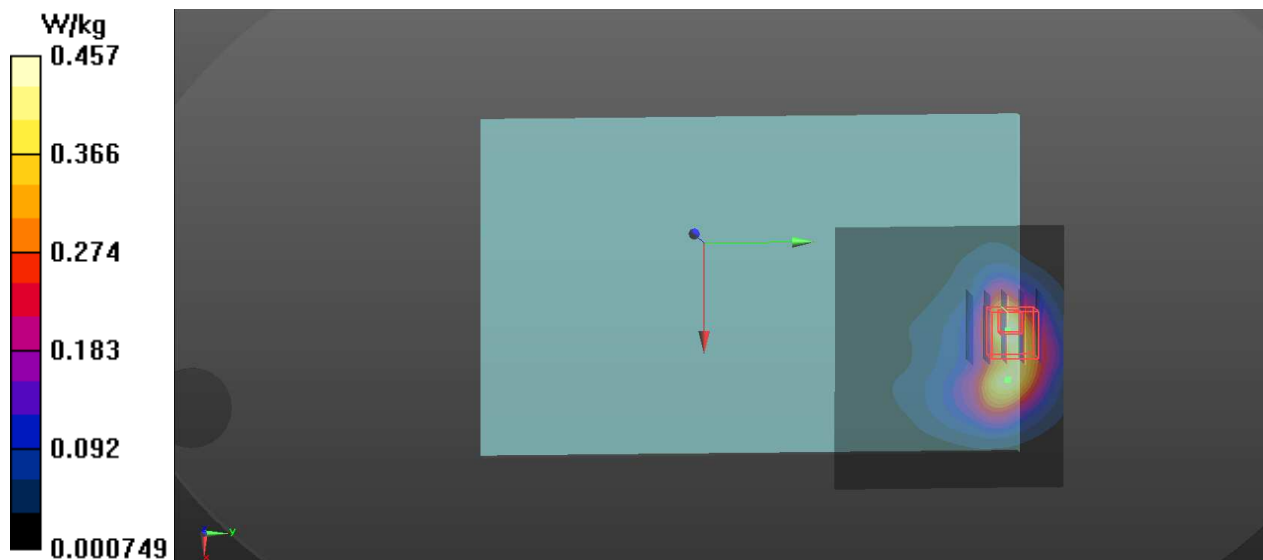
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $0.6540 \text{ V/m}$ ; Power Drift =  $0.16 \text{ dB}$

Peak SAR (extrapolated) =  $1.38 \text{ W/kg}$

**SAR(1 g) =  $0.565 \text{ W/kg}$ ; SAR(10 g) =  $0.270 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.709 \text{ W/kg}$



**P07 LTE 12\_QPSK10M\_Rear Face\_0cm\_Ch23060\_25RB\_OS12**

Communication System: LTE; Frequency: 704 MHz; Duty Cycle: 1:1

Medium: HSL750\_0316 Medium parameters used:  $f = 704 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 41.137$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.2^\circ\text{C}$ ; Liquid Temperature :  $22.5^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3873; ConvF(9.79, 9.79, 9.79); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.763 \text{ W/kg}$

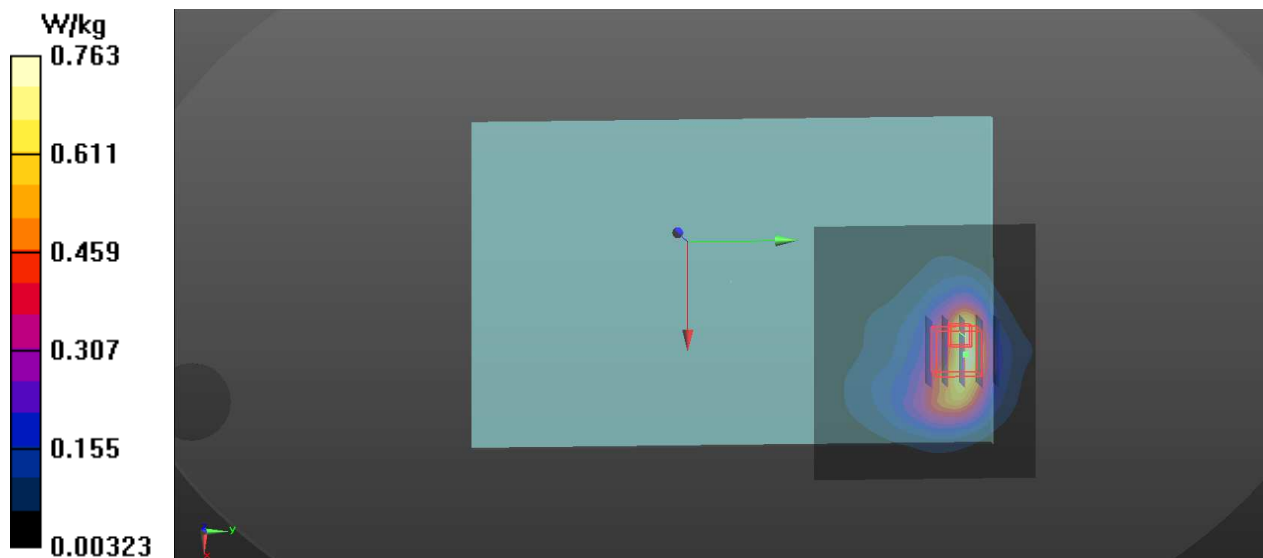
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $1.551 \text{ V/m}$ ; Power Drift =  $0.08 \text{ dB}$

Peak SAR (extrapolated) =  $1.70 \text{ W/kg}$

**SAR(1 g) =  $0.732 \text{ W/kg}$ ; SAR(10 g) =  $0.366 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.854 \text{ W/kg}$



**P08 LTE 13\_QPSK10M\_Rear Face\_0cm\_Ch23230\_25RB\_OS12**

Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: HSL750\_0316 Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.928 \text{ S/m}$ ;  $\epsilon_r = 40.367$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.2^\circ\text{C}$ ; Liquid Temperature :  $22.5^\circ\text{C}$

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(9.79, 9.79, 9.79); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.722 \text{ W/kg}$

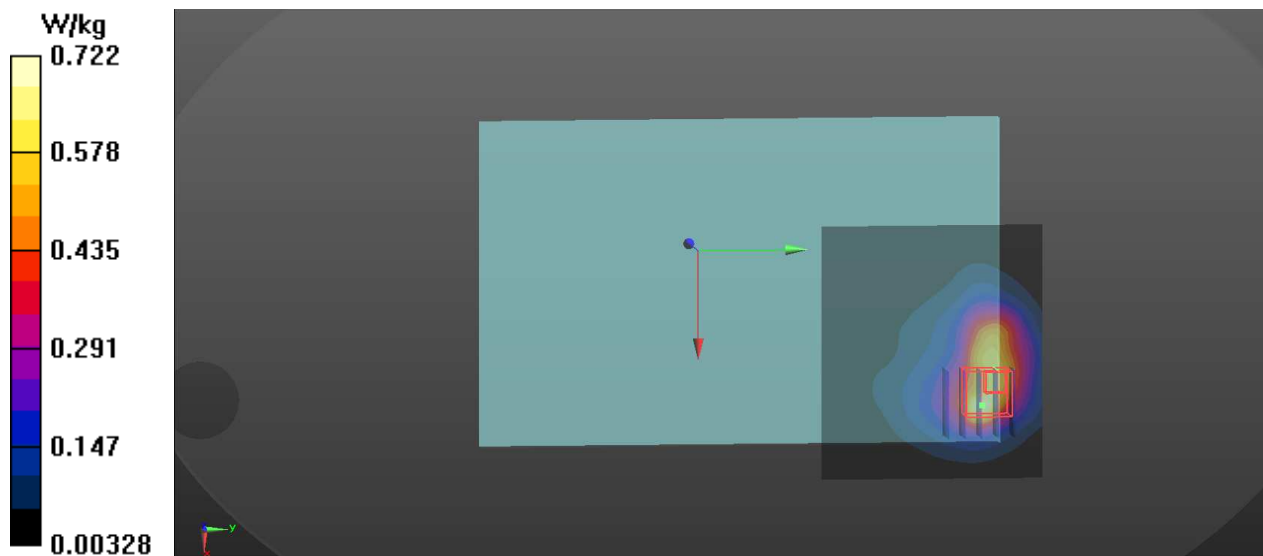
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $1.541 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

Peak SAR (extrapolated) =  $1.41 \text{ W/kg}$

**SAR(1 g) =  $0.677 \text{ W/kg}$ ; SAR(10 g) =  $0.357 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.841 \text{ W/kg}$



**P09 LTE 14\_QPSK10M\_Rear Face\_0cm\_Ch23330\_25RB\_OS12**

Communication System: LTE; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: HSL750\_0316 Medium parameters used:  $f = 793$  MHz;  $\sigma = 0.932$  S/m;  $\epsilon_r = 40.254$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(9.79, 9.79, 9.79); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.673 W/kg

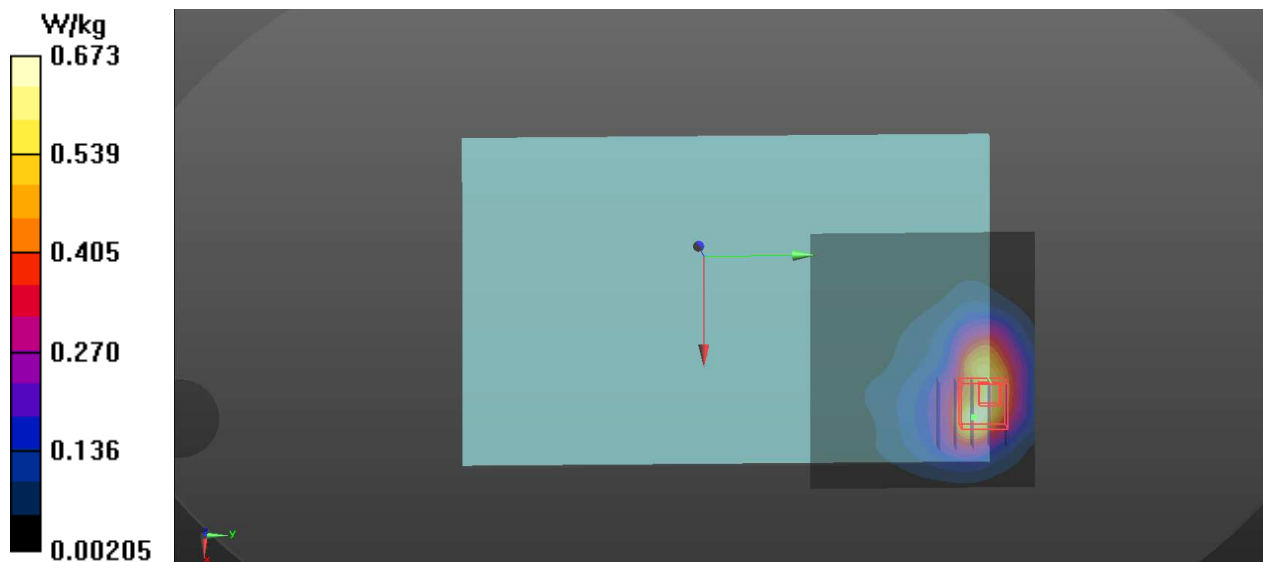
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 3.453 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.681 W/kg; SAR(10 g) = 0.356 W/kg**

Maximum value of SAR (measured) = 0.858 W/kg



**P10 LTE 25\_QPSK20M\_Rear Face\_0cm\_Ch26140\_1RB\_OS50**

Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: HSL1900\_0318 Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.357$  S/m;  $\epsilon_r = 38.971$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.94, 7.94, 7.94); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.872 W/kg

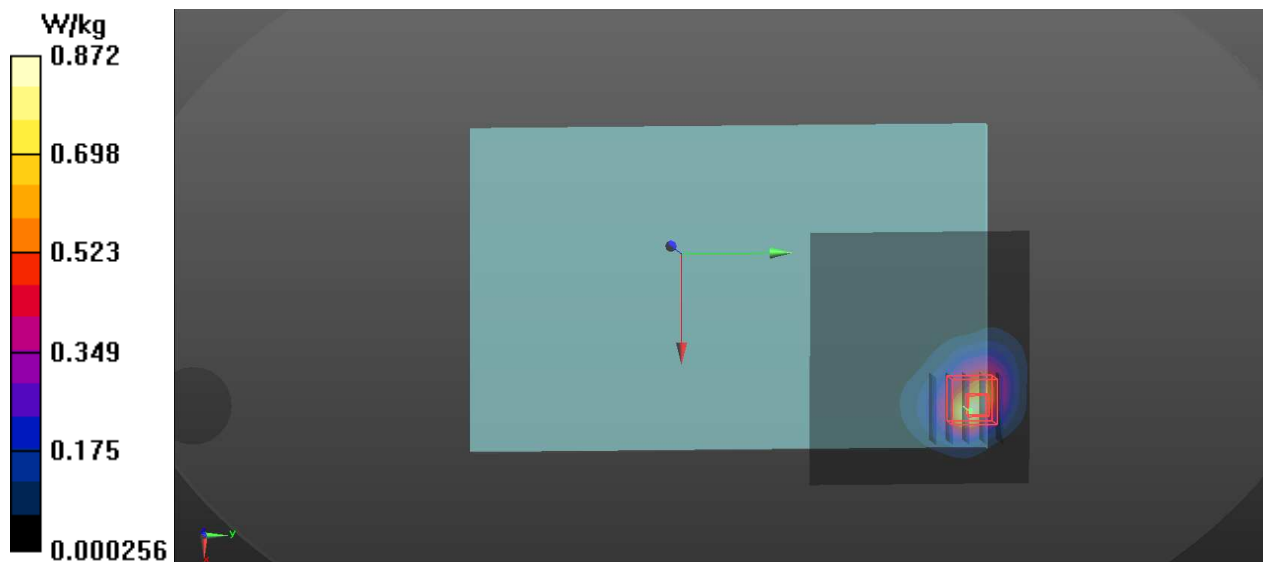
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.3930 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.43 W/kg

**SAR(1 g) = 0.706 W/kg; SAR(10 g) = 0.342 W/kg**

Maximum value of SAR (measured) = 0.774 W/kg



**P11 LTE 30\_QPSK10M\_Top Side\_0cm\_Ch27710\_50RB\_OS0**

Communication System: LTE; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: HSL2300\_0319 Medium parameters used:  $f = 2310$  MHz;  $\sigma = 1.672$  S/m;  $\epsilon_r = 39.112$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5°C; Liquid Temperature : 22.6°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.57, 7.57, 7.57); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x151x1):** Interpolated grid:  $dx=1.200$  mm,  $dy=1.200$  mm

Maximum value of SAR (interpolated) = 0.727 W/kg

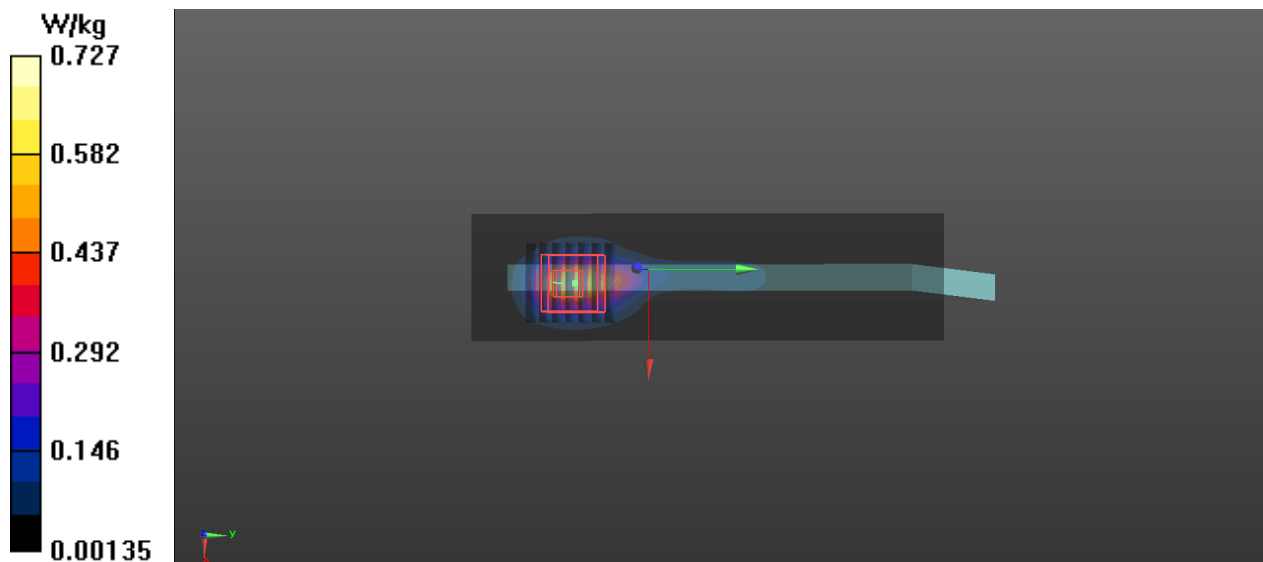
- **Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 6.121 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.27 W/kg

**SAR(1 g) = 0.557 W/kg; SAR(10 g) = 0.245 W/kg**

Maximum value of SAR (measured) = 0.673 W/kg



**P12 LTE 66\_QPSK20M\_Rear Face\_0cm\_Ch132572\_50RB\_OS0**

Communication System: LTE; Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: HSL1750\_0317 Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.397$  S/m;  $\epsilon_r = 40.658$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(8.17, 8.17, 8.17); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.972 W/kg

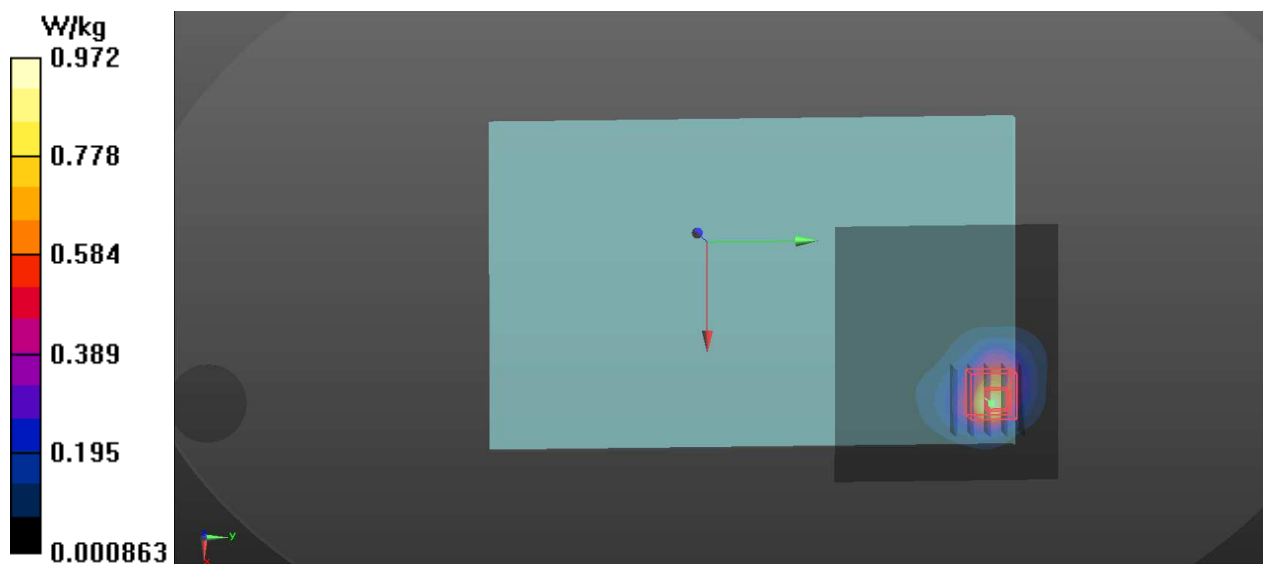
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.789 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.62 W/kg

**SAR(1 g) = 0.762 W/kg; SAR(10 g) = 0.368 W/kg**

Maximum value of SAR (measured) = 0.835 W/kg



**P13 LTE 71\_QPSK20M\_Rear Face\_0cm\_Ch133322\_50RB\_OS50**

Communication System: LTE; Frequency: 683 MHz; Duty Cycle: 1:1

Medium: HSL750\_0316 Medium parameters used:  $f = 683$  MHz;  $\sigma = 0.853$  S/m;  $\epsilon_r = 41.472$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(9.79, 9.79, 9.79); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (81x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.711 W/kg

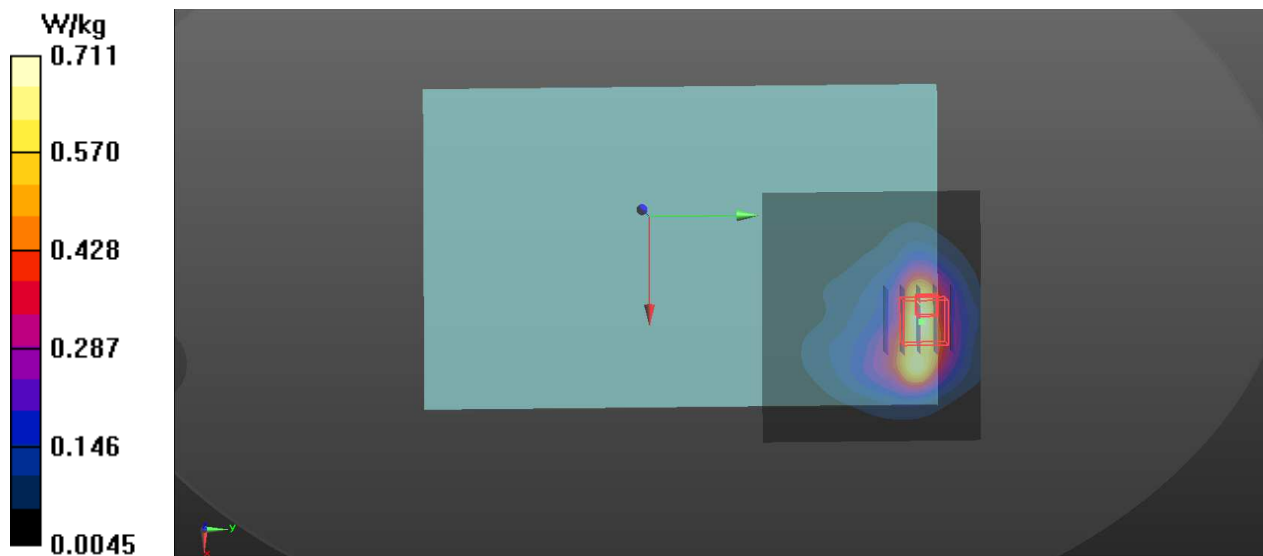
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.950 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.81 W/kg

**SAR(1 g) = 0.735 W/kg; SAR(10 g) = 0.363 W/kg.**

Maximum value of SAR (measured) = 0.824 W/kg



**P14 WLAN2.4G\_802.11b\_Right Side\_0.3cm\_Ch6**

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450\_0320 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.762$  S/m;  $\epsilon_r = 40.236$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.27, 7.27, 7.27); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

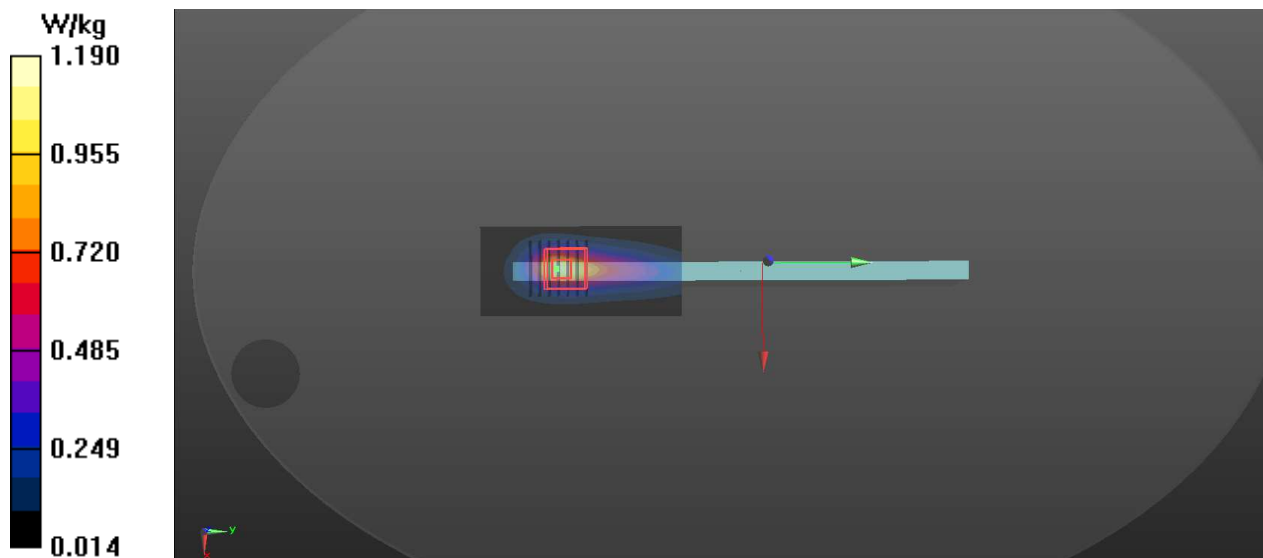
- **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.090 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.34 W/kg

**SAR(1 g) = 0.977 W/kg; SAR(10 g) = 0.424 W/kg**

Maximum value of SAR (measured) = 1.12 W/kg



**P15 WLAN5G\_802.11a\_Top Side\_1.2cm\_Ch64**

Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0402 Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.797$  S/m;  $\epsilon_r = 37.226$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(4.8, 4.8, 4.8); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x91x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 2.54 W/kg

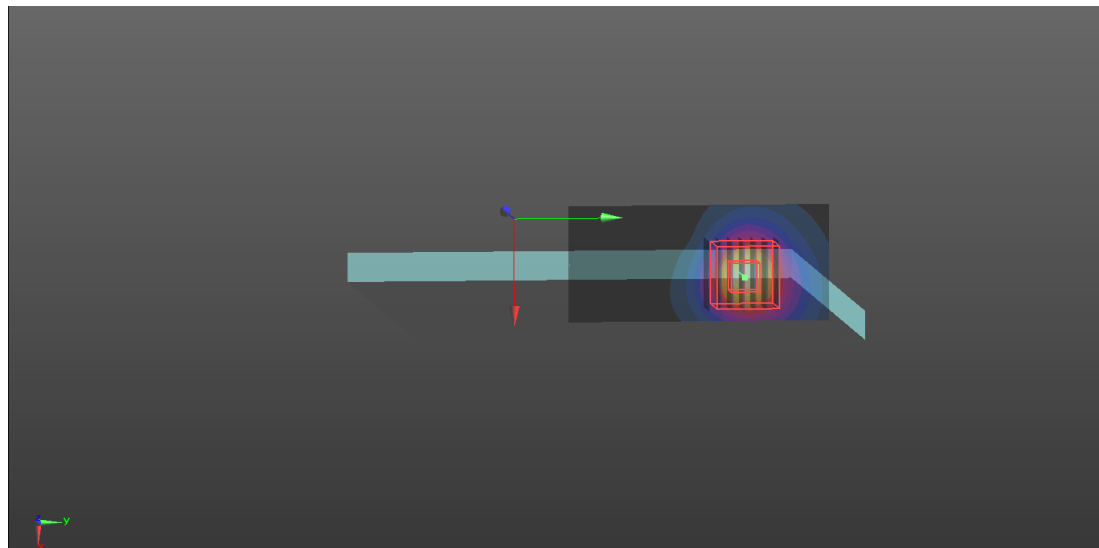
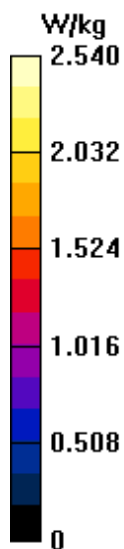
- **Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm

Reference Value = 1.335 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 3.68 W/kg

**SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.409 W/kg**

Maximum value of SAR (measured) = 2.40 W/kg



**P16 WLAN5G\_802.11a\_Top Side\_1.2cm\_Ch100**

Communication System: 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0403 Medium parameters used:  $f = 5500$  MHz;  $\sigma = 4.961$  S/m;  $\epsilon_r = 36.968$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.8°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(4.5, 4.5, 4.5); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.29 W/kg

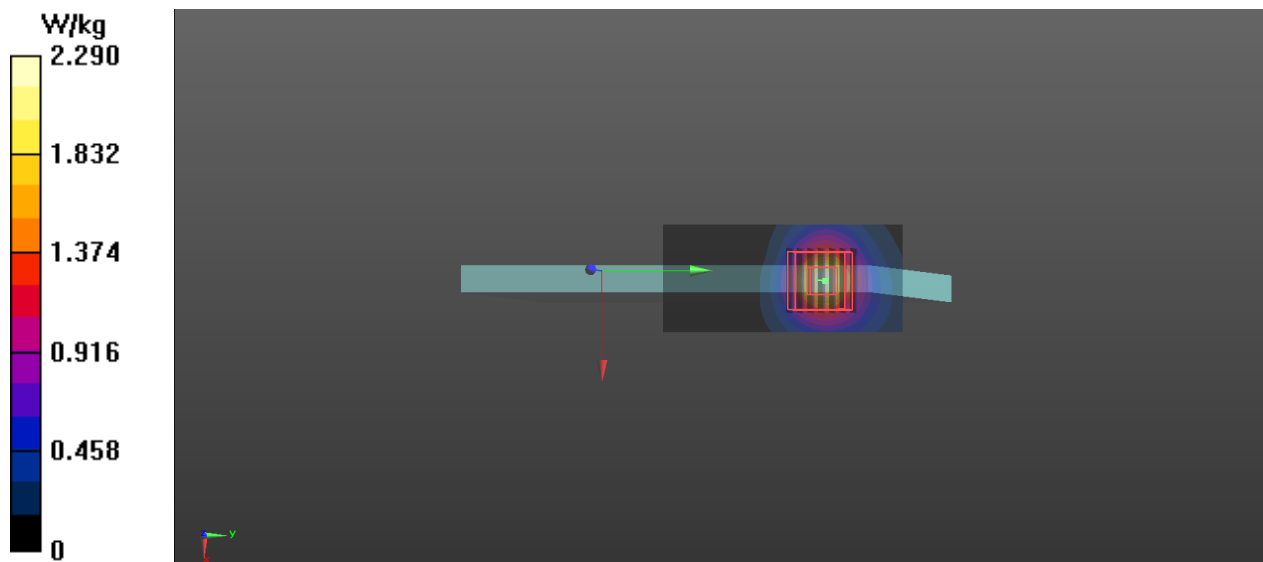
- **Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.77 W/kg

**SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.383 W/kg**

Maximum value of SAR (measured) = 2.33 W/kg



**P17 WLAN5G\_802.11a\_Top Side\_0cm\_Ch149**

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: HSL5G\_0401 Medium parameters used:  $f = 5745$  MHz;  $\sigma = 5.217$  S/m;  $\epsilon_r = 36.632$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4°C; Liquid Temperature : 22.4°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(4.49, 4.49, 4.49); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (41x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.93 W/kg

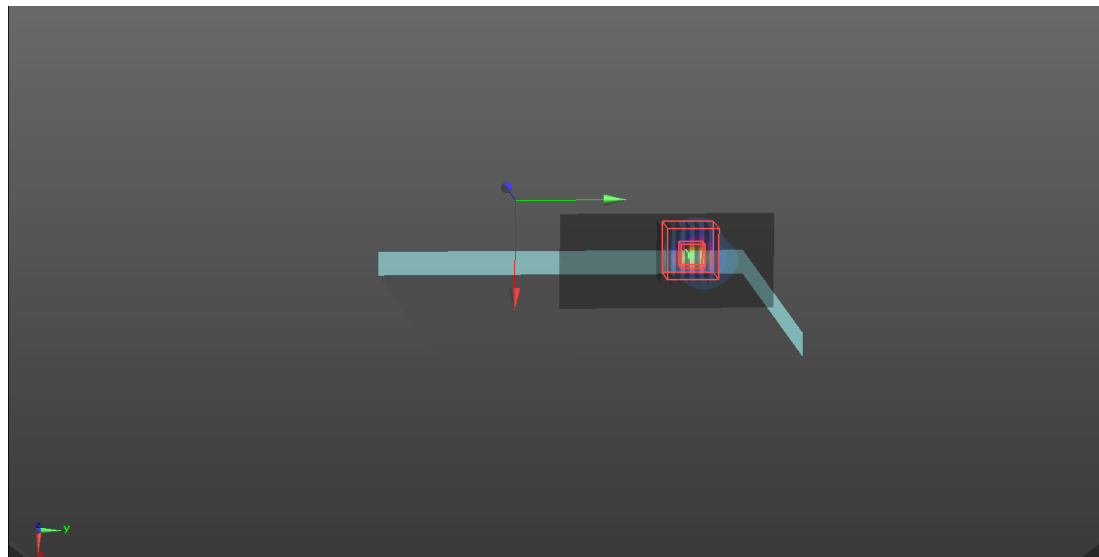
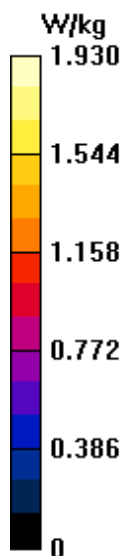
- **Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.109 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 4.26 W/kg

**SAR(1 g) = 0.777 W/kg; SAR(10 g) = 0.171 W/kg**

Maximum value of SAR (measured) = 2.36 W/kg



**P18 BT\_GFSK\_Rear Face\_0cm\_Ch78**

Communication System: BT; Frequency: 2480 MHz; Duty Cycle: 1:1.08

Medium: HSL2450\_0320 Medium parameters used:  $f = 2480$  MHz;  $\sigma = 1.818$  S/m;  $\epsilon_r = 40.137$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5°C; Liquid Temperature : 22.5°C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3873; ConvF(7.27, 7.27, 7.27); Calibrated: 2020/08/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1341; Calibrated: 2020/08/26
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1205
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

- **Area Scan (71x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

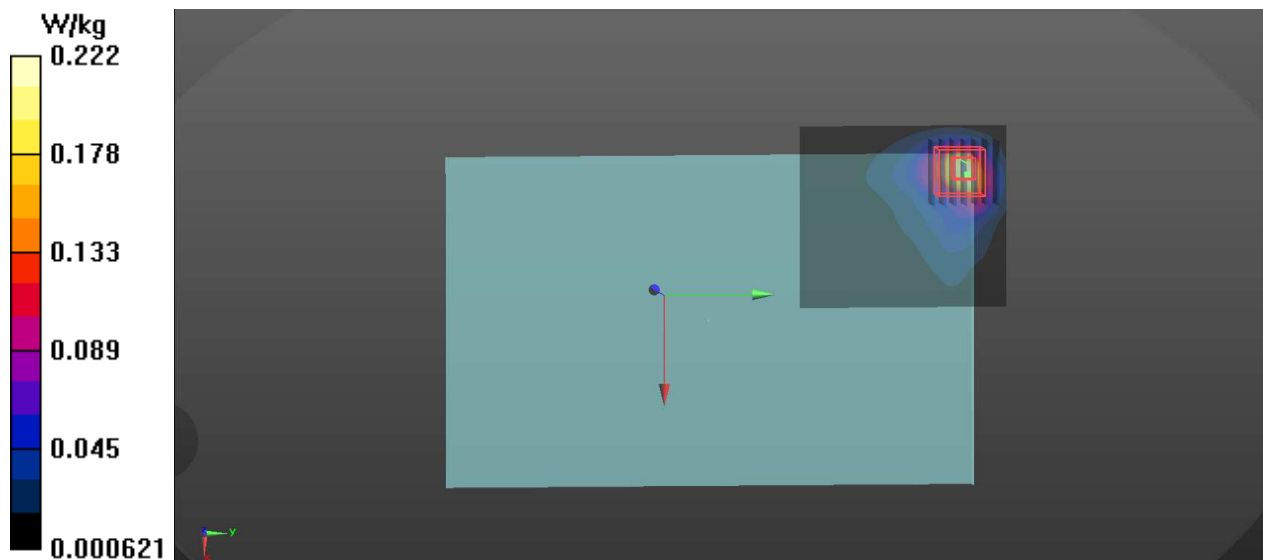
- **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8160 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.667 W/kg

**SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.085 W/kg**

Maximum value of SAR (measured) = 0.221 W/kg



## Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



In Collaboration with  
**s p e a g**  
CALIBRATION LABORATORY



中国认可  
国际互认  
校准  
CALIBRATION  
CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504  
E-mail: cttl@chinattl.com http://www.chinattl.cn

Client

ADT

Certificate No: Z20-60315

## CALIBRATION CERTIFICATE

Object

D750V3 - SN: 1067

Calibration Procedure(s)

FF-Z11-003-01

Calibration Procedures for dipole validation kits

Calibration date:

August 28, 2020

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards       | ID #       | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|-------------------------|------------|------------------------------------------|-----------------------|
| Power Meter NRP2        | 106276     | 12-May-20 (CTTL, No.J20X02965)           | May-21                |
| Power sensor NRP6A      | 101369     | 12-May-20 (CTTL, No.J20X02965)           | May-21                |
| ReferenceProbe EX3DV4   | SN 3617    | 30-Jan-20(SPEAG,No.EX3-3617_Jan20)       | Jan-21                |
| DAE4                    | SN 771     | 10-Feb-20(CTTL-SPEAG,No.Z20-60017)       | Feb-21                |
| Secondary Standards     | ID #       | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
| Signal Generator E4438C | MY49071430 | 25-Feb-20 (CTTL, No.J20X00516)           | Feb-21                |
| NetworkAnalyzer E5071C  | MY46110673 | 10-Feb-20 (CTTL, No.J20X00515)           | Feb-21                |

|                | Name        | Function           | Signature |
|----------------|-------------|--------------------|-----------|
| Calibrated by: | Zhao Jing   | SAR Test Engineer  |           |
| Reviewed by:   | Lin Hao     | SAR Test Engineer  |           |
| Approved by:   | Qi Dianyuan | SAR Project Leader |           |

Issued: September 3, 2020

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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### Glossary:

|       |                                            |
|-------|--------------------------------------------|
| TSL   | tissue simulating liquid                   |
| ConvF | sensitivity in TSL / NORM <sub>x,y,z</sub> |
| N/A   | not applicable or not measured             |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution Corresponds to a coverage probability of approximately 95%.